



AIR CAMPAIGN

THE ITALIAN BLITZ 1940–43

Bomber Command's war against
Mussolini's cities, docks and factories

RICHARD WORRALL

ILLUSTRATED BY GRAHAM TURNER



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INTRODUCTION

The crowd gathered at the Palazzo Venezia in Rome to hear Mussolini's declaration of war on Britain and France on 10 June 1940. Launching his 'parallel war' in the Mediterranean, Italy's war required German assistance from early 1941. (Getty Images)

This is a grave hour for our Fatherland. The hour [of] irrevocable decision. The Declaration of War is already decided ... We are going to war to break the chains laid upon us and we shall defend our territories everywhere. Only thus can a people of 52 millions remain free ...

Benito Mussolini, 10 June 1940

After nine months of 'belligerent neutrality', Mussolini declared war on Britain and France on 10 June 1940. Italy's 'parallel war' thus began in the Mediterranean, a conflict for dominance of the central sea in a war for empire: the maintenance of one and acquisition of territory for the other. As the last British Ambassador to Rome, Sir Percy Loraine, wrote:

... one must win the other must lose. Our lengthwise communications in the Mediterranean cannot co-exist with Italian north-south communications in the same sea in war.

Within hours, the Air Ministry in London had despatched a 'Most Immediate' telegram to its Commands and establishment, both at home and abroad, that stated:

As from 0001 hours British summer time Tuesday 11th June a state of war will exist with Italy.

One of the recipients was Air Marshal Sir Charles Portal, then head of RAF Bomber Command. Right from the beginning, it would be involved in the war against Mussolini's Italy, and 4 Group's Whitleys and 3 Group's Wellingtons went into action that night or, in the latter's case, attempted to.

A forgotten air campaign

The strategic bombing of Italy has been, and continues to be, a topic that has been examined by a considerable number of Italian historians. Yet for English-speaking readers it has been, and still remains, a neglected episode of the aerial conflict during World War II. Whilst many volumes have examined the combined bomber offensive against Germany and the American air campaign against Japan (including the atomic bomb attacks), the bombing offensive against the third member of the Axis coalition has received little coverage at all. Such an omission makes this volume unique, with its detailed examination of Bomber Command's campaign against Italy, which lasted from June 1940 to August 1943. Many titles on Bomber Command show this tendency towards neglecting the campaign against Italy – often covering it only in passing. This is perhaps no surprise given that certain sources, used heavily by subsequent authors on Bomber Command, say little about the bombing of Italy. In his official *Despatch on War Operations*, Sir Arthur Harris, C-in-C of Bomber Command, devoted little space to this campaign, an indication that he remained unenthusiastic – though certainly not obstructive – about it. The only exception is the bold claim he made as to the outcome:

The last stages in the bombing of the industrial cities of Italy were extremely successful, both in causing material damage and in finally destroying what little inclination remained in that country to continue a disastrous war ... The bombing produced quite hysterical accounts of woe in the press and radio, and *there is little doubt that it was the principal factor contributing to the downfall of Mussolini's regime.* [my emphasis]

Such sentiments, overblown if not completely incorrect, were presented with little additional detail, and were not critiqued by subsequent authors, apart from Richard Overy and Claudia Baldoli. Harris' memoirs followed a similar path, with only three pages out of 288 covering Italy, and astonishingly only Bomber Command's campaign of autumn 1942 'to throw the Germans out of Africa' was mentioned. Yet because his book was written for public consumption, there was still sufficient space for the claims to have got even bolder:

there is no doubt that the panic caused by Bomber Command's attacks on industrial cities in North Italy, though the weight of the attack was insignificant compared with that of the offensive against Germany, did as much as any other single factor to bring about the downfall of Fascism in that country.

Other memoirs by senior officers in Bomber Command, namely by Air Vice-Marshal Sir Robert Saundby, Deputy C-in-C Bomber Command, or the commanding of the Pathfinder, Air Vice-Marshal Donald Bennett, shed little light on the bombing of Italy, either. Indeed, Bennett wrote that he perceived Bomber Command 'as a mighty weapon for striking at the heart of the enemy – that is to say, at Germany itself'. Even Churchill – in many ways *the* central figure in directing the war in the Mediterranean – said little in his mammoth history of World War II (12 volumes in paperback) about the bombing of Italy, despite his pivotal role in ordering it.



Italian dictator Benito Mussolini. The Duce believed that it was Italy's destiny to dominate the Mediterranean by carving out a New Roman Empire in Africa and the Near East. (Getty Images)



Winston Churchill in August 1941. The Prime Minister frequently pressed for bombing attacks on Italy, but this was with a political goal in mind, namely to break civilian morale and force Italy's capitulation. (Getty Images)

to unimportant. Indeed, the campaign against Italy is far more interesting and important than has been given credit, revealing a number of fascinating aspects about Bomber Command's war: its methods, tactics, strategy and targeting philosophy. It contained debates and decision-making on to the extent of Bomber Command's support of amphibious operations in the Mediterranean or whether to attack such cities as Rome, Florence, Verona and Venice, and controversies, such as the use of the Duomo (cathedral) as the aiming-point on raids on Milan. Perhaps most significant was the fact that by late 1942 Bomber Command's campaign against Italy was blended with the civilian leadership's conduct of strategy in the Mediterranean – a theatre where Harris was subject to the authority of no military commander. These issues are covered by this volume; to do so, the author has gone back to the archival files, some of which have been listed in Further Reading.

Certainly, Bomber Command's attacks on Italy were closely connected to the military campaigns in the Mediterranean and North Africa, as shown by the operations to support Montgomery's El Alamein offensive and the *Torch* landings in autumn 1942, or the Anglo-American invasion of Sicily (Operation *Husky*) in July 1943. Here, Bomber Command was tasked with attacking Genoa to prevent Axis convoys sailing to North Africa, and later the battleships of the *Regia Marina* (Royal Italian Navy) moored at La Spezia. Strategic bombing was thus part of the Allies' combined effort to defeat the Axis in the Mediterranean. Yet, at the same time, Bomber Command's attacks on Italy – as perceived by the airmen – were also conducted in a way to fulfil the ambitions of the so-called 'Bomber Barons' who believed airpower could destroy Italian war industry and civilian morale, and thereby bring about Italy's collapse. This accounts for why Harris, even in late 1942, opted to switch the focus of his Italian operations away from Genoa to Turin, with its restive and strongly left-wing workforce that toiled in the city's war industries. The political mood and rising discontent in Turin only served to make this an ever more attractive target for Bomber Command in 1942/43. In essence there were a number of reasons for Harris' operations against Italy, some being tactical and concerned with supporting land and sea operations in the Mediterranean theatre, and others strategic and concerning Italy's continued status as an enemy power.

The other source heavily utilised by authors on Bomber Command was the British Official History. Published in 1961, the *Strategic Air Offensive against Germany* (SAOG) was an epic study comprising four volumes. Yet Italy featured little, apart from a brief mention in passing to complete the narrative. This is no surprise given the official historians' comment that 'the Italian diversion did not amount to much' – no doubt made to conform to the official history's title that only stated Germany – but which, as this volume will show, is an inaccurate judgement. Nonetheless, the SAOG had set the idea that Bomber Command's offensive against Italy was 'a non-event', which could not be further from the truth. Subsequent accounts, which drew heavily on the official history, added little to our understanding of this campaign, which was often merely 'reviewed', not analysed. The exceptions were Stephen Harvey's journal article, the excellent work by Claudia Baldoli and the recent book by Richard Overy, who writes that the bombing of Italy 'has remained on the margins in most narratives of the conflict ever since' (see Further Reading). Such a trend is a considerable omission which this volume aims, at least, to partly fill.

Under-researched and scanty coverage does not translate

Bomber Command's offensive south of the Alps can therefore be divided into a number of phases, each having a particular goal, which are explained in Campaign Objectives.

Ultimately, what part would Harris' force play in Italy's capitulation? Certainly the evidence suggests Bomber Command's attacks on the northern Italian cities from late 1942 to mid-1943 increasingly worsened Italian morale. Yet a note of caution is needed here. By 1943, Italy was a society suffering from hardship and low morale owing to its disastrous fortunes in the war. The crucial question, therefore, is whether the bombs dropped on a people who were already collectively depressed by the regime's inept handling of the war?

These issues will be analysed in the final chapter. Stephen Harvey concluded that 'the bombing had a decisive effect on the ... willingness to continue the war'. The same author also highlighted how the bombing impacted on Italy's 'ability' to continue the war. This refers to the damage to Italy's war industries, which by summer 1943 was extensive, inflicted on a country that Sir Percy Lorraine had called 'the most vulnerable and the weakest link, militarily, morally and economically, in the chain of our enemy'. Ultimately, both these dimensions – attacking war industry and civilian morale – were pursued to bring about the same thing, namely Italy's defeat, and were enthusiastically encouraged by the British War Cabinet. For Churchill, Foreign Secretary Anthony Eden and Sir Archibald Sinclair (Secretary of State for Air) maintained substantial control over the bombing campaign against Italy, including its timing, targets and rationale. Perhaps encapsulating this best was Churchill's Directive of 3 December 1942 that ordered 'the heat should be turned on Italy'. This sanctioned Bomber Command to deploy 'shock and awe' tactics to affect a political outcome in the war against Italy, alongside attacks to help the military campaigns in the Mediterranean. Churchill – very much at the heart of British bombing policy during winter 1942/43 – therefore held ambitions that closely aligned with the ideas of the 'Bomber Barons'.

In the beginning, Bomber Command's early attacks on Italy were light 'pin-prick' efforts, a nuisance but hardly devastating to the Fascist regime. This changed in autumn 1942. Count Galeazzo Ciano, Mussolini's son-in-law and foreign minister (until February 1943), recorded in his diary on 9 October 1942 a long conference with General Cesare Amè, head of the Military Intelligence Service. It was a gloomy and pessimistic conversation that, Ciano noted:

lead[s] one to conclude the Anglo-Saxons are preparing to land in force in North Africa, whence, later on, they intend to launch their blows against the Axis. Italy is geographically and logically the first objective. How long shall we have the strength to resist a determined, strong, and methodically aerial and naval offensive?

An answer was not long in coming. Within a year, Mussolini had fallen and Italy had capitulated. This is the story of Bomber Command's three-year role in bringing about that outcome.



The damaged La Scala Opera House in Milan in August 1943. Italian cities contained many religious, cultural and artistic treasures, which Bomber Command did try to avoid targeting. But the nature of area bombing meant that some bombs inevitably went astray. It is partly for this reason that Bomber Command's Italian target list remained limited to the northern industrial cities of Turin, Milan and Genoa. Rome, Florence and Verona were placed off-limits for fear of the RAF facing domestic and international condemnation and accusations of 'vandalism'. (Getty Images)



USSR

GERMAN-OCCUPIED EASTERN EUROPE

- Major Italian targets
- Minor Italian targets
- Italian targets considered by the Air Ministry for attack by Bomber Command, but rejected



British airfield



Italian nightfighter airfield

Route to Milan on 24/25 October 1942 operation

Route to Turin on 12/13 July 1943 operation

Route to Leghorn "Shuttle" raid on 24/25 July 1943 ("Operation Bellicose")



Boundary between SQA1 (HQ Milan) and SQA2 (HQ Padua) Italian Air commands, with the SQA1 area



Naval Base



Oil refinery



Zone of operational responsibility of Luftflotte 3 and its nightfighter units based in northwest France, Belgium and the Netherlands



Border between German-occupied France and Vichy France until November 1942

1. Italy attacks Greece on 28 October 1940
2. Crete — taken by German paratroopers in May 1941
3. British take Tripoli 23 January 1943. Axis forces withdraw to the Mareth Line in southern Tunisia. Italian rule ends in Libya
4. Tunisia: final Axis surrender in North Africa on 13 May 1943
5. Blida and Maison Blanche airfields near Algiers. These airfields were used by Bomber Command Lancasters on the 'shuttle' attacks (Operation *Bellicose*) on 23/24 June (target: La Spezia) and 24/25 July 1943 (target: Leghorn)
6. Malta: RAF Wellingtons were based there but it was also an emergency landing area for Bomber Command aircraft
7. Operation *Husky* — the Anglo-American invasion of Sicily — 10 July 1943
8. Rome contained the Comando Supremo (the Italian High Command) and the Ministero Dell'Aeronautica. The centre of the Fascist government, Rome was rejected as a target for Bomber Command due to concern over damaging the city's religious and cultural sites
9. Salon and Vallon airfields, near Marseilles. RAF Bomber Command used this for the short-lived 'Haddock Force', comprising Wellingtons, for operations against Italy during June 1940
10. Switzerland: throughout the war the Swiss submitted protests about Bomber Command's violation of their airspace. This does affect the routing of operations to Italy in 1943, which had to continue through South-East France
11. Battle of El Alamein (from 22 October—11 November 1942). RAF Bomber Command is asked to support the offensive by bombing cities in Northern Italy, especially the port of Genoa
12. Operation *Torch* — the Anglo-American invasion of North Africa — from 8—16 November 1942
13. Lac de Bourget (left) and Lake Annecy (right); important physical features that were used as navigation aids by RAF Bomber Command. Pathfinders dropped flares above the lakes to indicate their location to the Main Force
14. Channel Islands — Bomber Command's Whitley aircraft refuel here before attacking Italy in mid-June 1940
15. Italian nightfighter bases of Venegono (north-west of Milan) and Lagnasco (south south-west of Turin)
16. Cassibile, Sicily: Italians sign armistice on 3 September 1943. Announced five days later as American forces conduct the Salerno landings and British come ashore at Taranto

BULGARIA

ALBANIA
(IT)

GREECE

TURKEY

LIBYA (IT)

EGYPT (BR)

CHRONOLOGY

1940

31 May Anglo-French Supreme War Council's tenth meeting passes Resolution to bomb Italy immediately after it enters the war.

10 June Mussolini declares war on Britain and France. HQ Bomber Command issues Operation Order No 36 and the Italy target list to 3 Group.

11/12 June Operation: Turin (36 Whitleys of 4 Group). 3 Group's Wellingtons ('Haddock Force') prevented from taking off from bases in southern France by local French authorities.

15/16 June Operation: Genoa (eight Wellingtons of 'Haddock Force').

16/17 June Operation: Genoa, Milan (22 Wellingtons of 'Haddock Force'). British aircraft return to the UK in view of French surrender.

24/25 June France signs armistices with Germany and Italy.

13/14 August Operation: Milan, Turin (35 Whitleys).

15/16 August Operation: Milan, Turin, Genoa (four Whitleys).

18/19 August Operation: Milan, Turin (four Whitleys).

24/25 August Operation: Sesto San Giovanni, Sesto Calende, Busto Arsizio (ten Whitleys).

26/27 August Operation: Turin, Sesto San Giovanni (11 Whitleys).

27/28 August Operation: Turin, Sesto San Giovanni (ten Whitleys).

1/2 September Operation: Turin, Sesto San Giovanni (five Whitleys).

2/3 September Operation: Genoa (five Whitleys).

5/6 September Operation: Turin (two Whitleys).

3 October War Cabinet informed about Swiss complaints of Bomber Command's violation of national airspace.

6 October Air Ministry signal to HQ Bomber Command: continue to bomb Italy.

20/21 October Operation: Turin, Sesto San Giovanni, Aosta, Savona (six Whitleys).

28 October Italy attacks Greece. Bomber Command ordered to undertake 'maximum effort' against northern Italy that night, weather depending.

30 October Evill sends signal to Peirse: 'In addition to these primary tasks for your offensive against Germany, I am to request that your offensive against objectives in Northern Italy may be continued whenever favourable conditions occur.'

5/6 November Operation: Turin, Milan, Aosta (19 Whitleys).

8/9 November Operation: Turin, Milan (ten Whitleys).

11 November Directive to 4 Group stating northern Italy should be attacked with all available aircraft, whenever weather conditions are favourable.

23/24 November Operation: Turin (seven Whitleys).

26/27 November Operation: Turin (eight Whitleys).

4 December 3 Group's Wellingtons take over bombing Italy role, owing to 4 Group's shortage of Whitleys. They are specifically instructed not to send more than 15 aircraft.

4/5 December Operation: Turin, Milan (15 Wellingtons).

18/19 December Operation: Milan, Genoa (seven Wellingtons).

21/22 December Operation: Porto Marghera (five Wellingtons).

1941

11/12 January Operation: Turin (11 Wellingtons).

12/13 January Operation: Porto Marghera, Turin (nine Wellingtons).

17 January HQ Bomber Command issued new Directive: the primary focus is Germany's oil industry; Italian operations halted.

10/11 September Operation: Turin (56 Wellingtons, 13 Stirlings, seven Halifaxes).

24–30 September British send major resupply convoy to Malta (Operation *Halberd*); Bomber Command ordered to support this by attacking Genoa.

26/27 September Operation: Genoa (34 Wellingtons; all recalled except one aircraft).

28/29 September Operation: Genoa, Turin (39 Wellingtons, two Stirlings).

1942

8 January Peirse dismissed as C-in-C Bomber Command; 3 Group's Air Vice-Marshal Jack Baldwin appointed temporary AOC.

14 February Sir Arthur Harris appointed C-in-C Bomber Command.

12/13 April Operation: Genoa (18 Whitleys).

22/23 October Bomber Command begins operations against Italy to support Montgomery's offensive at El Alamein. Operation: Genoa (112 Lancasters).

23/24 October Operation: Genoa (53 Halifaxes, 51 Stirlings, 18 Wellingtons).

24 October Operation (daylight): Milan (88 Lancasters).

24/25 October Operation: Milan (25 Halifaxes, 23 Stirlings, 23 Wellingtons).

6/7 November Bomber Command begins operations against Italy to support *Torch* landings. Operation: Genoa (72 Lancasters).

7/8 November Operation: Genoa (85 Lancasters, 45 Halifaxes, 39 Stirlings, six Wellingtons).

13/14 November Operation: Genoa (67 Lancasters, nine Stirlings).

15/16 November Operation: Genoa (40 Halifaxes, 27 Lancasters, 11 Stirlings).

18/19 November 'Battle of Turin' begins: the 'home of Fiat' is attacked seven times over the next three weeks. Operation: Turin (32 Lancasters, 11 Wellingtons, 32 Halifaxes, two Stirlings).

20/21 November Operation: Turin (86 Lancasters, 54 Wellingtons, 47 Halifaxes, 45 Stirlings).

28/29 November Operation: Turin (117 Lancasters, 47 Stirlings, 45 Halifaxes, 19 Wellingtons). Flight Sergeant Rawdon Middleton (RAAF) awarded Victoria Cross for conduct on this operation.

29/30 November Operation: Turin (29 Stirlings, seven Lancasters).

2 December Air Ministry Signal: Harris ordered *not* to attack Venice or Florence without Air Ministry permission. Additional instruction tells HQ Bomber Command to continue 'to interrupt war production' in northern Italy by 'operation of a few aircraft with expert crews'. Mussolini announces nightly evacuation of all civilians from northern industrial cities will commence.

3 December Prime Ministerial Directive: 'the heat should be turned on Italy'.

8/9 December Operation: Turin (108 Lancasters, nine Halifaxes, nine Wellingtons, seven Stirlings).

9/10 December Operation: Turin (115 Lancasters, 47 Halifaxes, 40 Wellingtons, 25 Stirlings).

11/12 December Operation: Turin (48 Halifaxes, 20 Lancasters, eight Stirlings, six Wellingtons).

1943

17 January Italy Directive: industrial cities of Milan, Turin and Genoa authorised as targets. La Spezia to be added if Swiss airspace not violated.

29 January La Spezia added to Italian target-list after HQ Bomber Command confirm attacks could be made without flying over Switzerland.

4 February Churchill attends victory parade in Tripoli; Axis forces withdraw to Mareth Line in southern Tunisia; Italy has lost Libya.

Casablanca Directive issued, determining the priorities for Anglo-American combined bomber offensive (CBO) against Germany. An 'on demand' objective are attacks on Italy 'in connection with amphibious operations in the Mediterranean theatre'.

4/5 February Operations: Turin (77 Lancasters, 55 Halifaxes, 50 Stirlings, six Wellingtons), La Spezia (four Lancasters).

14/15 February Operations: Cologne, Milan (142 Lancasters), La Spezia (four Lancasters). DSO and Conspicuous Gallantry Medals awarded to one Lancaster crew.

17 February Air Ministry issues to HQ Bomber Command the Admiralty's request for La Spezia to be attacked by large force or not at all.

20 February Air Ministry send letter to Harris further emphasising importance of attacks on La Spezia.

4 March Harris sends letter to the Permanent Under Secretary of State for Air, Sir Arthur Street, protesting that attacking La Spezia is 'ill-advised and inconsistent with agreed policy as to the proper employment of our Bomber Force'.

5 March Strikes begin at Fiat Works in Turin against the Mussolini regime. They spread to other cities, such as Milan, and continue into April; British bombing considered partly to blame for the unrest.

5/6 March Harris begins battle of the Ruhr, and submits a letter protesting over many 'diversions' given to his Command, including La Spezia.

13/14 April Operation: La Spezia (208 Lancasters, three Halifaxes).

18/19 April Operation: La Spezia (173 Lancasters, five Halifaxes).

13 May General Giovanni Messe surrenders Axis forces in Tunisia; fighting in North Africa ends.

23/24 June Operation: La Spezia (52 Lancasters).

10 July Operation *Husky* – the Anglo-American invasion of Sicily – begins.

11 July Harris makes formal request to launch Operation Audax – the assassination of Mussolini by bombing his office and villa in Rome. 617 Squadron earmarked to conduct this 'surgical' strike.

12/13 July Operation: Turin (295 Lancasters).

15/16 July Operation: transformer stations at Arquata Scrivia, Reggio Emilia, Bologna, San Polo D'Enza (24 Lancasters).

16/17 July Operation: transformer stations at Cislago, Brugherio (18 Lancasters).

24/25 July Operation: Leghorn (Livorno) (33 Lancasters); Harris commences battle of Hamburg that night.

25 July In Rome, Fascist Grand Council deposes Mussolini.

26 July War Cabinet halts Bomber Command's attacks to see whether Marshal Pietro Badoglio pulls Italy out of the war.

29 July Believing Badoglio intends to continue hostilities alongside Germany, the War Cabinet calls for simultaneous attack on Milan, Turin and Genoa on 30/31 July. It is added that operation is 'subject to cancellation at short notice owing to possibility of rapid change in political situation'. 'Weather' supposedly stops this attack.



Air Marshal Sir Charles Portal, who was the first commander-in-chief of Bomber Command to launch operations against Italy. He would be promoted to Chief of the Air Staff (CAS) on 25 October 1940, but remained intimately connected to the operational and political aims behind bombing Italy right up to the armistice on 3 September 1943.
(Getty Images)

31 July–2 August Italian foreign minister Raffaele Guariglia secretly approaches British and American officials in Lisbon about armistice.

6 August Guariglia tells Ribbentrop and Keitel that no approach has been made to Allies.

7/8 August Operations: Genoa, Milan, Turin (197 Lancasters).

8 August Churchill informs Eden: ‘The war should be carried forward against Italy in every way that Americans will allow. We do not have to ask their permission about bombing the towns of Northern Italy, and Harris should be limited only by weather.’

12 August General Castellano sent to Lisbon to approach British and Americans.

12/13 August Operations: Milan (321 Lancasters, 183 Halifaxes), Turin (112 Stirlings, 34 Halifaxes, six Lancasters). Flt Sgt Arthur Aaron achieves VC on Turin operation.

14/15 August Operation: Milan (140 Lancasters).

15/16 August Operation: Milan (199 Lancasters).

16/17 August Operation: Turin (103 Stirlings, 37 Halifaxes, 14 Lancasters).

19 August Peace talks continue between Castellano and the Allies; Air Staff now instruct Harris ‘to lay off the Italian cities’. This order cancels a huge operation against Turin scheduled for that night.

3 September Castellano secretly signs armistice at Cassibile, Sicily. Badoglio, having agreed to it, tells Germans otherwise.

8 September Armistice announced publically. American and British forces commence landings at Salerno and Taranto. Germans activate Operation *Achse* to disarm Italian forces and seize Rome. Italy itself now becomes a battlefield.



ATTACKER'S CAPABILITIES

Short Stirling Mk I. In theory, this four-engined heavy bomber, first flown in August 1940, should have been the best long-range aircraft of Bomber Command early in the war. In practice, the type's teething troubles kept it off operations until early 1941, after which the Italian commitment was halted temporarily. Its first trip to Italy was the 10/11 September 1941 operation to Turin. (Getty Images)

We had looked forward to seeing the snow-clad Alps in the full glory of a moonlit night but had been forced, instead, to fly through violent electrical storms which brought severe icing of airframe and engines ... Not a few crews were forced to jettison the odd bomb in order to pull back the extra bit of altitude.

Norman Ashton, flight-engineer, 103 Squadron

Operations against Italy spanned Bomber Command's development as a strategic bomber force. The periods of intense attacks – namely during autumn 1940, autumn 1942 and summer 1943 – saw Harris' force considerably evolved from the time before. This was particularly the case with the type of aircraft used, which went from the two-engine bombers to the four-engine 'heavies', and also with technical devices to assist navigation and target-marking. Italian operations also saw a range of techniques tried and tested, such as multiple aiming-points, a day/night attack on the same target, 'shuttle' raids, low-level strikes, area bombing and bombing of specific industrial sites. Bomber Command also experimented with adopting a flexible approach to target-marking that could be adjusted according to the conditions pertaining over the target (see Tactical Diagram on p.72), and also the first use of a 'Master Bomber' in a major raid on 12/13 August 1943.

The first bombers

Bomber Command's first aircraft to bomb Italy were the Armstrong Whitworth Whitley, operated by 4 Group, and the Vickers Wellington of 3 Group. The Whitley first flew in March 1936, but its most numerous version would be the Mk V, powered by two Rolls-Royce Merlin X engines that helped increase its speed and bomb-carrying capacity



(7,000lb). With its crew of five, the Whitley was Bomber Command's first heavy night-bomber, but would always be hamstrung by its short range. Bombing Italy early in the war meant it had to refuel at airfields in the Channel Islands or later, after the German capture of the islands, in eastern England. 58 Squadron navigator Flt Sgt John Mitchell recalled this 'topping up' was needed to climb the Alps going out and to complete the ten-hour operation facing fierce headwinds on the return. The aircraft equipped 10, 51, 58 and 78 Squadrons and carried out the first operation against Italy on 11/12 June 1940. It continued on Italian operations for the next five months, but early December 1940 saw 4 Group removed from the role of bombing Italy as high losses (on German targets) and a lack of replacements had caused a shortage of Whitleys.

Thereafter, the Italian role was undertaken by the Vickers Wellington. Having had an incredible lifespan that went from June 1936, when the 'Wimpy' first flew, to October 1945, 11,000 Wellingtons were produced. Possessing a unique inner construction similar to an airship's lattice-style structure, it was made from aluminium that proved both light and strong, if labour-intensive to construct. Linen was used for the Wellington's bodywork which, although prone to catching fire and burning away, allowed it to absorb tremendous battle damage, often returning to base with most of its inner structure fully exposed. Preferred to the Whitley and Handley-Page Hampden (nicknamed the 'Flying Suitcase' because of its cramped interior), the Wellington was powered by two Bristol Pegasus X/XVIII engines that gave a top speed of 235mph. The Whitley could carry more bombs, though less far (a full bombload meant an operating range of just 500 miles); in contrast, the Wellington could make the 1,500 round-trip to northern Italy with a useful three-quarter bombload of about 2,750lb.

Harris' 'unloved' aircraft

The Short Stirling and Handley-Page Halifax were aircraft Harris never rated, and often criticised bitterly. Roy Jackson, serving on 7 Squadron, described the Stirling as looking like 'a cross between a flying boat and an erection of scaffolding'. This was an unflattering description of the RAF's first four-engined heavy bomber, which flew for the first time in May 1939 but did not enter operational service until February 1941 owing to teething troubles. But the Stirling would be remembered fondly by its crews for its in-flight manoeuvrability, decent top speed of 270mph (due to its powerful Bristol Hercules XVI engines) and roomy interior – a product of its generous dimensions. Equipping 12 squadrons in 3 Group, two of Bomber Command's VCs would be won by Stirling pilots on operations to Italy. Yet the type had its vices too: its handling on the ground was very tricky, and a particular weakness was its over-complicated under-carriage mechanism that collapsed with frightening regularity. The under-carriage also meant the Stirling sat very

Bomber Command's aircraft for the early attacks on Italy: the Armstrong Whitworth Whitley Mk V (left) and the Vickers Wellington Mk I (right). The Whitley carried a decent bombload but was hampered by a restricted range. In operations on Italy, 4 Group's bombers had to call at airfields in the Channel Islands and, later, southern England to have their fuel tanks topped up, which only added another hazard to these long-distance sorties to Italy. The Whitley was pulled off Italian operations in December 1940 because of aircraft shortages owing to high losses on operations to Germany. The Wellington took over the task of bombing Italy in winter 1940/41. Rugged and reliable, the type was used in Italian operations from late 1940 to April 1942 but not the following year. By then its bombload was considered modest when compared to Bomber Command's four-engined 'heavies'. (Getty Images)

Air Marshal Sir Arthur Harris, C-in-C Bomber Command from 21 February 1942 to 15 September 1945. Though he disliked 'diversions' away from bombing Germany, Harris undertook Italian operations on numerous occasions. Bombing Italy stretched German air defences and was also a testing and training ground for Bomber Command's new technical devices, target-marking techniques, navigational standards and novice crews in a less demanding environment. The bombing of Italy showed that Harris, despite a reputation for granite-like obstinacy, was a more cooperative commander than is often believed. This picture was taken on 10 July 1943; Harris sent his bombers to attack Turin two nights later. (Getty Images)



Air Vice-Marshal The Hon Ralph Cochrane was the AOC-in-C of 5 Group from 28 February 1943, having transferred from 3 Group. It was 5 Group that would bear the brunt of Italian operations during 1943, deploying squadrons – including the famous Dambusters – in low-level attacks on Italian transformer stations in July 1943. Cochrane would lead an internal investigation into the Group's poor bombing accuracy and higher losses on the 12/13 July operation to Turin. (Getty Images)



high from the ground, which made it perilous for groundcrews to maintain, especially in icy weather, and its serviceability levels lowered considerably during intense periods of operations because of its tendency towards unreliability. It was also difficult to get airborne, having a horrible swing on take-off that could carry fatal consequences for the unwary. 3 Group's AOC-in-C, Air Vice-Marshal The Hon Ralph Cochrane, also complained to Harris that its thirsty engines caused a chronic reduction in bombloads because of 'the enormous quantity of petrol we must carry to raise the aircraft to its operational height, especially if it is down on performance'. Above all, its thick wings, which gave the Stirling its in-flight manoeuvrability, had the downside of limiting its ceiling to about 17,000ft (even the Whitleys and Wellingtons could get to 17,750ft and 18,000ft respectively) which at times made clearing the Alps a perilous proposition. But in late 1942 Stirling production had reached a crisis, which would stretch Harris and Cochrane's already low levels of patience with the type very thin indeed. Cochrane told Harris that Short's 'product is lousy' and that 'these dud aircraft ... can only stagger to 12,000 feet'. Manufacturing problems had led to a low right wing, and Cochrane wanted no more delivered 'unless they were up to full operational standards in climb'. Harris therefore began 1943 with an Order of Battle that was weakening because 'practically the whole operational value of 3 Group [has] collapse[d] under us owing to the scandalous Stirling developments', which embraced a shortfall of 82 aircraft, 'rogue' examples, and often only ever 30 serviceable. Nonetheless, the Stirling regularly participated on Italian operations during late 1942, and would be sent on three of the summer 1943 raids, including Bomber Command's last attack on Italy on 16/17 August.

The Handley-Page Halifax became operational in March 1941 with 35 Squadron, with the number of Halifax squadrons expanding to 12 by early 1942. Produced in several variants, operations to Italy would all be undertaken by the Mk II/V versions; and Harris rated neither. Notwithstanding a decent top speed of 282mph, it was the type's range that remained awkward: an 8,000lb bombload could be carried, but only over 1,060 miles, which was insufficient for Italian operations. Therefore the weight of bombs carried had to be lowered considerably – to around 4,500lb – for the Halifax to operate against Italy. This limitation



Handley-Page Halifax Mk II. This type was used frequently in operations against Italy during late 1942. But its restricted bombload meant Harris often had to use his best aircraft, namely the Lancaster, for the majority of Bomber Command's operations to Italy during 1943. (Getty Images)

meant the Halifax was used less on Italian targets during 1943 in favour of the Lancaster, as the improved Mk III version only appeared in November.

Carrying the burden

On 8 January 1943, Harris reviewed his bomber force. In so doing, he placed 'on record' his view that 'the Stirling and Halifax are already obsolescent'. Italian operations had shown the weaknesses of these types in ceiling, range, fuel load and bomb-carrying capacity. The net result was the burden of bombing Italy largely fell on Harris' best aircraft, namely the Avro Lancaster. Out of 13 attacks made on Italy during 1943, only five included the Halifax or Stirling squadrons. On one occasion, namely the 'dual attack' against Milan and Cologne on 14/15 February, Harris was forced to send the Lancasters to the 'easier' target in Italy whilst his weaker aircraft went to the 'tougher' target in Germany.

Designed by Roy Chadwick, the Lancaster first flew in January 1941 and entered service 12 months later with 44 (Rhodesia) Squadron. Powered by four Rolls-Royce Merlin XX engines, the type had a top speed of 287mph, a ceiling of 24,500ft and a range of 1,660 miles, which meant it could reach long-distance targets such as Milan and Genoa. With a maximum bombload of 14,000lb, its ever-versatile bomb bay could carry bombs of every shape and size (unlike the Stirling), all of which contributed to the Lancaster's versatility.

Avro Lancaster Mk I (left), Bomber Command's foremost heavy bomber, which took the offensive to Germany and Italy during 1942. It was capable of carrying an impressive – and varied – bombload over a long distance to Italy, which included the 4,000lb 'cookie' or the 8,000lb 'blast' bomb (right). Lancasters of 1, 5 and 8 Groups would bear the brunt of Bomber Command's later operations against Italy. (Getty Images)



Against Italy, the bombload was reduced to accommodate a full fuel load, but it still carried a useful 8,000lb on these 1,500-mile round-trips.

The notable absentees were 2 Group's dated Bristol Blenheim, the awful Avro Manchester, the uncomfortable Hampden, and the truly excellent De Havilland Mosquito, which were never used on Italian operations.

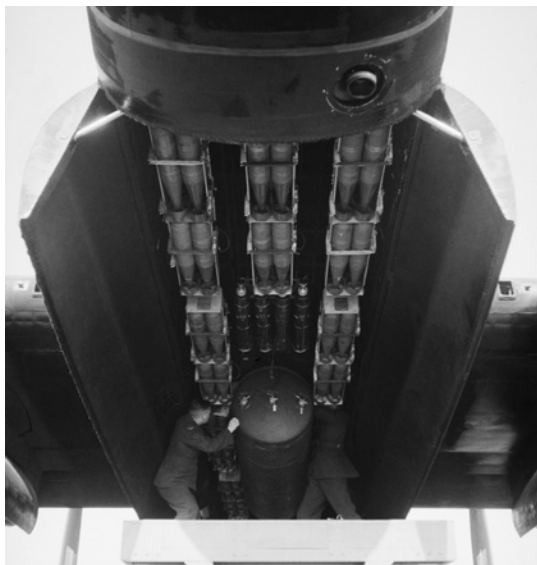
Technical devices

Assisting navigation to Italy were the three crucial devices of Gee, Oboe and H2S. First used against Essen on 8/9 March 1942, Gee saw three ground transmitters in England send pulses in a pre-set order, and the navigator would measure the time differences of their arrival to chart his aircraft's distance on a special map. The system improved navigation, but was not perfect. The Earth's curvature hampered the pulse transmissions, so Gee had a finite range of about 350 miles – fine for Ruhr targets but inadequate for Italian cities (though operational reports stated some navigators would receive signals up to 400–500 miles on Italian operations), and it was susceptible to jamming by the Germans. Oboe – so called because the pulses sounded like the musical instrument – was introduced in early 1943 and improved not only navigation but also bombing accuracy. Oboe used two ground-based noise transmitters, with the first station (Cat) maintaining the aircraft's course as it flew along a predetermined track; should it deviate from this, then correction signals would be transmitted. The second station (Mouse) measured the aircraft's range along the track and calculated when the bomb release-point had been reached, on which a different pulse was then emitted. This system could be very accurate, and it proved difficult for the Germans to jam. The downside was Oboe could only handle one bomber at a time, although not all were equipped to handle the system anyway.

By February 1943, Bomber Command therefore had two devices which facilitated better navigation and bombing, yet both were hampered by the problems of range and jamming. What was required was a system that broke the bomber's dependence upon ground-based transmitting stations by having a device carried by the bomber itself. This came in the form of H2S, a ground-echoing radar that scanned the area beneath the aircraft and thereby constructed a picture of the terrain being flown over, such as water, countryside, mountains or an urban area. Consequently, an image formed on a special screen, which the navigator then cross-referenced with a map. Attacks on Italy benefitted considerably by use of H2S

because it gave an excellent outline of major lakes that allowed PFF (Pathfinder Force) aircraft to drop route-markers over these geographical features to assist the navigation of the main force. The device was also used as a marking aid because it could construct an image of the target itself, which was especially useful if the city contained identifiable landmarks, such as major rivers, as Turin in fact did. H2S' limitations of becoming more imprecise the further inland the bombers went, and its difficulty in distinguishing areas of very large cities, were therefore not encountered on Italian targets. Turin and Milan were simply not large enough to cause 'image blinding' on the H2S screen, unlike Berlin. The importance of H2S to help with bombing accuracy became all too clear. Bomber Command's Operational Research Section (ORS) compiled statistics that highlighted the attacks on Italy in August 1943 which saw 85 per cent of bombs dropped within 3 miles of the aiming points; in contrast, the three attacks on Berlin during this month saw the figure drop to an underwhelming 30 per cent.

The Lancaster's bomb bay, packed with canisters of 30lb incendiary bombs (IBs) and a 4,000-pounder. From June 1940 to August 1943, Bomber Command dropped millions of incendiaries on Italy, yet these bombs were generally considered to have been less effective here than on German towns and cities owing to Italian construction. Buildings were often made of stone and had marble floors, cooling for the Italian summer heat, which was in stark contrast to the vast number of wooden structures found in the *Altstadts* (old towns) of many German centres. (Getty Images)





Mont Blanc and the 'Alpine barrier'. This formidable geographical obstacle, which enclosed the Lombardy Plains and northern Italy, had to be crossed by Bomber Command's aircraft *en route* to Italy. This was far from easy: bad weather or a poorly performing aircraft, not to mention the heavy bomb and fuel load, always made crossing the Alps a risky endeavour. (Getty Images)

To evade or deceive the enemy, Bomber Command employed several countermeasures. Mandrel, which came as either an airborne or ground-based RCM (radio countermeasures), used noise to jam the frequencies of early-warning radars, particularly against the Luftwaffe's Himmelbett night-fighter control stations which relied on the Freya, Mammuth and Wassermann sets. First used in December 1942, Mandrel was used on Italian operations precisely because the Kammhuber Line (the German night air defence system) had been extended around the Paris region, which British aircraft had to traverse. Tinsel, also introduced at this time, comprised a microphone next to one of the engines, and the subsequent noise was then transmitted on the same R/T frequency used by German controllers to obscure the information broadcasts being passed to the night-fighters. Finally, there was Window. Comprising metal-foil strips, these were dropped in bundles by the bombers to overwhelm German radar screens, which became 'fogged' by the vast number of metalized objects. First used on 24/25 July 1943, Window would be employed against Italy in August 1943. Its ultimate impact on lowering bomber losses on Italian operations remains hard to determine, given Italy's weaker air defences, but certainly it did seem overkill on Italy's still primitive ground-radar defences.

Generally, it might be assumed that operations to Italy were trouble-free exercises for the aircrews of Bomber Command. Australian Don Charlwood, a navigator on 103 Squadron, noted how the announcement of 'the target for tonight is Turin' was greeted by squadron 'old hands' with the words 'Whizzo' and 'Piece of cake!'. Yet such confidence, if not entirely misplaced, could not disguise the fact that bombers were still lost on Italian operations. Notwithstanding the generally weak Italian air defences, British aircraft succumbed to mechanical failures, to the Luftwaffe (based in France), or to sheer bad luck. Indeed, Charlwood remembered how one of only two aircraft lost on the Milan operation of 14/15 February 1943 was their own commanding officer, Sqn Ldr W. H. Powdrell, who was brought down by incendiary bombs dropped from another aircraft. "Easy targets," Charlwood wrote, 'bred false optimism.'

This was a correct judgement, for bombing Italy had its perils. An Italian operation was certainly a long way indeed, with Turin, Milan and Genoa being round-trips of between 1,500 and 1,900 miles, comprising 8–10 hours' duration. This was tough in a well-functioning bomber, but in a poorly performing aircraft it would be perilous. Many crews encountered technical problems because the long range and endurance, heavy fuel and bombloads, and

Air Marshal Sir Richard Peirse, C-in-C Bomber Command from 5 October 1940 to 9 January 1942. Peirse launched operations against Italian targets during late 1940 and sporadically in 1941. He was dismissed from Bomber Command in early 1942 after pushing ahead with a Berlin operation on 7/8 November 1941 in bad weather, resulting in heavy losses. (Getty Images)



climbing over the Alps – often twice – all strained the bomber, especially its engines. Indeed, Italian operations were notable for a considerable number of abortive sorties, landing crashes, ditches in the sea and losses, owing to engine failures or fuel starvation. In the early years, there were a number of ideas proposed to conquer the problem of range, which included sending bomber detachments to Greece and Crete. Some Wellingtons from Bomber Command were sent to Malta, but besiegement by the Axis air forces made operating them from the island's airfields increasingly undesirable. In mid-1943, Bomber Command tried the 'shuttle' method, which saw Lancasters bomb a long-distance target, land in North Africa, and attack Italy on their return, but this was tried on only two occasions. Instead, Bomber Command's Italian operations were always conducted from Britain, but this brought an additional problem, namely the hours of darkness, which impacted on the time of year attacks on Italy could be conducted. As the Director of Bomber Operations, Air Commodore Sydney Bufton, wrote in July 1943, the ability to bomb Italy 'is governed largely by the need for a night long enough to enable them to go there and back in darkness', and only from 16 August was there sufficient darkness 'to permit a limited but increasing scale of night attacks' – the implicit message being a sustained campaign against Italy could only occur during the autumn and winter. Short hours of darkness meant British bombers returning over northern France in near daylight, as happened on 12/13 July 1943, which saw the Luftwaffe shoot down a number of Bomber Command aircraft. This issue explains why Harris could only give limited help during the period of Operation *Husky*.

Added to these issues was the diplomatic problem of violating Swiss airspace. Fuel loads, bombloads and hours of darkness meant it was tempting for HQ Bomber Command to select a more direct route that went over neutral Switzerland. The Swiss government's first protest was communicated by Eden to the War Cabinet on 3 October 1940, though the matter on this occasion had been discussed with the Swiss Ambassador in 'good humour'. The general policy at this time was that although Swiss airspace violations were politically undesirable and should 'be avoided', bomber captains should remember 'their primary aim is to reach their objective'; if this involved flying over Switzerland, then so be it. However, by late 1941 the Foreign Office received stronger protests from the Swiss that had to be

considered because ‘maintaining diplomatic relations with Switzerland’, especially given ‘its value as a centre of Intelligence’ within German-occupied Europe, had become vital. Yet avoiding Switzerland impacted on Bomber Command’s target choices in Italy. As Air Vice-Marshal Norman Bottomley told Air Vice-Marshal Richard Peirse, C-in-C of Bomber Command, whilst bombing Genoa could still be undertaken avoiding Swiss airspace, it was ‘a much more difficult matter’ on cities in north-east Italy. In fact this consideration, alongside others, would rule out operations against Verona, Venice, Florence and Bologna. Yet transgressions continued, and the Swiss response became more strident, perhaps as a consequence of German pressure. Therefore, Bomber Command’s later operations to Italy saw aircraft routed through south-eastern France so as to avoid western Switzerland. But this impacted on range, fuel loads and bombloads, and probably accounts for why only the Lancaster tended to be used on operations to Italy in 1943.

Of course, whichever route was adopted the final challenge was the crossing of the Alps. Containing a number of peaks over 12,000ft, this extensive mountain range had to be traversed because it curved around to ‘shut in’ the top of Italy. Successfully negotiating these mountains was a perilous undertaking, however. Mitchell recalled that getting a Whitley over Mont Blanc meant high petrol usage to attain the requisite altitude, which might be needed later should a strong headwind be encountered on the return; indeed, as happened to Mitchell himself, aircraft often faced fuel starvation that led to the unappealing prospect of ditching in the Channel.¹ As most crews brought their aircraft below 12,000ft to bomb an Italian target, they all faced the need to climb over the Alps again, with all the consequent strain on fuel consumption (though aircraft were considerably lighter from carrying no bombload). This was bad news for those bombers that had been damaged by Italian night-fighters or flak. Aircraft struggling to clear the peaks then faced the dicey prospect of having to fly through the valleys and around the peaks. Sgt John Gilvary, a bomb aimer on 419 (RCAF) Squadron, wrote: ‘Did not like the Alps one bit. Grim and foreboding, one poor devil hit them with a full bombload aboard. Not much left of him.’² The Alps were certainly no place to have any kind of mechanical drama. Charwood recorded how another crew had the terrifying experience of the auto-pilot system throwing their aircraft into a vicious dive over the peaks before the bomber climbed upwards on its tail. On their next Italian operation the same crew suffered multiple engine failures that forced them to ‘to skirt the higher peaks at an airspeed of 140 mph’. It was little surprise the Alpine ‘barrier’ more often forced crews of underperforming aircraft to abort. If mechanical trouble was encountered over Italy, the Alps would be difficult – if not impossible – to fly over on the return. With emergency landing grounds in North Africa not being available before November 1942 and Malta’s airfields overcrowded and still subject to Axis air attacks, there were few places to go, except ditching in the sea somewhere near Gibraltar.

Given the risks, HQ Bomber Command always consulted the forecast for conditions over the Alps; cloud in the valleys posed little concern, but covered peaks were highly dangerous. Alpine weather jeopardised the very first attack on Italy, in which thunderstorms and icing strained ropery engines, forcing many to abort. 10 Squadron pilot Sqn Ldr Pat Hanafan recalled vividly the moment of flying into black cumulus clouds:

Suddenly there was a great flash which ripped through the Whitley. It blew the rear gunner backwards out of his turret into the fuselage with the left side of his body paralysed. It burned the wireless operator’s hands, cut both engines, and put the aircraft into a vertical dive, laden with ice.

1 Quoted from *Fly Past*, January 2012, p.47.

2 Quoted from K. Wilson, *Bomber Boys*, Weidenfeld & Nicolson (2006 ed.), pp.294–96.

Hanafan regained control, but a marginal fuel load prevented any further attempt to cross the Alps so the shaken crew turned for home.³ Yet at other times the weather was picture perfect, and allowed crews to marvel at the spectacular Alpine scenery.

Preparing a bomber for an Italian operation would be a balancing act between the weights of the fuel and bombloads. Consequently, Harris favoured the Lancaster for operations to Italy because it could take 8,000lb compared to the Halifax's 5,750lb, the Stirling's 3,500lb and the Wellington's 2,750lb. But he still had to use the weaker aircraft, and often the Stirling's smaller bombload was assigned to be dropped on a specific industrial target, such as Fiat's factory at Lingotto. In contrast, the Lancaster was usually reserved for bombing Italian urban areas, whose destruction required a greater number of HE bombs that only that bomber could carry. The Ministry of Home Security's RE8 department and the Air Ministry's Directorate of Bomber Operations had concluded Italy's cities were much less 'burnable' than those in Germany, owing to Italian construction methods that saw marble used for flooring and thick walls made from solid stone. Designed as modern tenement buildings, with wide courtyards, and located on broad, open streets, these residential properties often had no attics, used concrete and tile instead of wood and steel, and had extensive fire-resistant floor covering. This made them 'hard' constructions that often caused British incendiary bombs to break up on impact, as opposed to becoming embedded in the 'softer' wooden constructions of a densely packed *Altstadt* (old town).

Bombs were not the only weapons dropped on Italy by Bomber Command. There was also the 'weapon of words' in the form of the Political Warfare Executive's (PWE) propaganda leaflets, which aimed to solidify civilian opposition to Mussolini, Germany and the war. A colossal 35½ million 'PWE letters' would be dropped on Italy by both Bomber Command and British and American bombers based in the Mediterranean. The effect of leaflets should not be underestimated in helping Mussolini's overthrow and causing Italy's surrender, for the messages deliberately targeted a society whose morale was plummeting.

Secretary of State for Air Sir Archibald Sinclair, a Liberal MP, was a firm supporter of bombing Italy, including launching attacks on Rome by Bomber Command. Moreover, he wanted these to be made on the central area, around the Palazzo Venezia, where Mussolini and the Fascist government were located, and not against transportation targets on the city's outskirts. (Getty Images)



The chain of command

At HQ Bomber Command in High Wycombe, Air Chief Marshal Sir Arthur Harris made his decisions on operations to Italy (and Germany). Single-minded, determined and opinionated, Harris argued vehemently against 'diversions' away from bombing Germany. Yet he would comply with official Directives far more than is commonly supposed, and Italy proved no exception. In so doing, Harris obeyed orders received from the Air Ministry, headed by Chief of the Air Staff (CAS), Marshal of the Royal Air Force Sir Charles Portal, and Assistant Chief of the Air Staff (ACAS(Ops)) Air Vice-Marshal Norman Bottomley. Yet the critical decision-makers in Bomber Command's campaign against Italy were not the high-ranking airmen, but senior members of the British government because the religious, cultural and artistic importance of Italy's cities meant close control of the bombing was deemed as being essential. For during 1942–43, attacks on Italy became a subject of debate and correspondence from concerned parliamentarians, such as Hugh Molson MP, which often saw Sir Archibald Sinclair, the Secretary of State for Air, having to defend the government's bombing policy. Moreover, Britain's civilian leadership *could* exercise influence over attacks on Italy because Harris was subject to the authority of *no* commander in the Mediterranean. Before the Casablanca Directive, requests and/or demands to bomb Italy were issued to HQ Bomber Command by the Air Ministry, but these were sanctioned by the Prime Minister and War Cabinet. Civilian control over the bombing of Italy was especially seen in summer 1943, when the War Cabinet ordered Bomber Command to cease its attacks on 26 July but ordered their resumption three days later.

3 Quoted from M. Hastings, *Bomber Command*, Pan (2007 ed.), pp.86–87.



DEFENDER'S CAPABILITIES

Fougier describes our aircraft production in dark colours. Between us and Germany we produce less than one fifth or sixth of what the Allies produce. The enlistment of pilots is also short and falling off. During the summer of 1943 the Allies will definitely have control of the skies.

Ciano Diary, entry for 22 September 1942

In March 1923, the Regia Aeronautica was founded as an independent service under the direction of its own ministry (Ministero dell'Aeronautica). The inter-war years saw the aircraft become a symbol of modernity and technical prowess for the Fascist regime, with the pilot an embodiment of a 'new' masculine identity that was wrapped up in heroism, élan and a need for reckless endeavour, often at high speed. Meanwhile, in the spirit of the age, the Duce himself obtained a pilot licence. Aircraft and Fascism therefore had a symbiotic relationship, each reinforcing the other, and lauded by the regime's propaganda. Yet in so doing, the regime only promoted airpower for its glamour, dash and swagger, and above all offensive capabilities, which meant any kind of consideration, let alone preparation, about air defence went completely overlooked.

Financial lavishness on the Regia Aeronautica increased during the 1930s, particularly as Italy became embroiled in conflicts in Ethiopia, Spain and Albania. Yet the air force was always behind the army and navy when it came to budgets, and despite being 'air-minded', Mussolini's ambitions in the Mediterranean demanded a large navy (to challenge the British) and a substantial army (for territorial conquest). Critically, the performance of Italian aircraft in the Spanish Civil War led the regime to believe its aircraft were unbeatable, and a consequent inertia came to aircraft development which saw Italy make only a late transition to the monoplane. Military involvement bred anachronisms, not technical development. This outlook, together with Fiat-Ansaldo's near-monopoly on Italian arms production, meant

The Fiat CR.42 Falco. Antiquated in appearance, the type was nonetheless manoeuvrable and versatile, and included the development of a night-fighter version (CN) that was painted in an all-black colour with some time instrument illumination for night-time flying. Flying an open cockpit aircraft at altitude during winter nights tested the endurance of many Italian pilots. Such limitations were recognised by Fougier, who as late as 15 June 1943 wrote that night-fighters were 'still at a stage of formation; the absence of visibility at night was only compensated for by a few electronic instruments of limited capacity'. In contrast, Bomber Command had been consistently innovating with new navigational aids, tactics and bombing techniques to be a more effective night-bombing force. (Getty Images)

continued production of outdated designs, such as the Fiat CR.42, which with its open cockpit and biplane wings was a design that reflected an obsession with 'derring-do' aerobatics and individual élan. This antiquated aircraft, of which 1,782 were constructed, continued to use up Italy's already limited aircraft production capacity at the expense of building more modern designs and specialist aircraft, such as night-fighters. The Regia Aeronautica, which had some 3,000 aircraft upon the outbreak of war, was much less impressive once Fiat's biplanes⁴ had been subtracted from the inventory.

Regia Aeronautica: command structure, organisation and aircraft

Inheriting this mess was General Francesco Pricolo, who was Chief of the Air Staff from 1939 to 1941. In that time, however, Pricolo did little to improve air defences because he simply believed Italy remained protected by the Alps. Moreover, like many others in the Italian High Command, Pricolo held the view that the Germans would be victorious anyway, and measures to counter the bombing of Italian cities were simply not needed. Yet when it became clear this was deeply erroneous, there were precious little *lire* left to spend on Italy's air defences, and it was left to Pricolo's successor, General Rino Fougier (1941–43), to rue the mistake. Ultimately, the best Fougier could do was to transfer responsibility for air defence to the Fascist Militia, which had no understanding of aerial warfare at all, and ask the Luftwaffe for assistance, which arrived too late. Consequently, in July 1943 General Renato Sandalli inherited an air force that was only just starting to use ground-control systems encompassing radars received from the Germans, but this air defence network was far from complete. It was all too little, too late. Moreover, just as the Italians were coming to terms with this new technology, Bomber Command had upped the ante by using its Window counter-measure on Italian operations.

In terms of organisation, the Regia Aeronautica was divided into covering four areas of mainland Italy. The critical zone of defence against Bomber Command's attacks was Squadra Aerea 1 (SQA1), headquartered in Milan, and charged with covering north-west Italy. The next important area was SQA2 (HQ in Padua), which was responsible for defending north-eastern Italy. The remaining two areas, namely SQA3 and SQA4, never faced Harris' force because they lay too far south. Below the area groups, Italian Air Force units were formed into a *Stormo* comprising three *Gruppi* that were sub-divided into two or three *Squadriglie*. Notwithstanding this structure, the Italians for most of the war used small sections of enthusiastic pilots attached to regular units for the night-fighting role, and recognisable night-fighter squadrons only appeared from 1942 onwards. These squadrons, not surprisingly, had been moved northwards to SQA1's airfields by August 1943: 2 Gruppo

(152 and 358 Squadriglie) to Genoa-Sampierdarena (in the western outskirts of Genoa itself); 59 Gruppo (232 and 233 Squadriglie) to Lagnasco (about 30 miles south of Turin); and 60 Gruppo (234 and 235 Squadriglie) to Venegono (7 miles south-east of Varese). An *ad hoc* collection of six CR.42CNs were also divided between the airfields of Torino-Caselle (some 8 miles north of the city) and Genoa-Sampierdarena. These airbases, located close to major cities, were permanent aerodromes often containing paved runways, proper fuel/water storage, and accommodation facilities. A handful of CR.42 night-fighters were based at

Mussolini at Caselle airport, Turin, in May 1939. Turin was an important centre of Italian aircraft and aero-engine production in the Fiat Works and Alfa Romeo factories. Note the antiquated aircraft in the background. These biplanes – probably Fiat CR.42s – formed a significant part of the Regia Aeronautica's fighter strength. Night-fighter versions (CN – Caccia Notturna) would be in service by 1942. These would often be seen by bomber crews, but their record of attacking British aircraft was mixed. (Getty Images)



4 This also included the CR.42's predecessor, the CR.32.

SQA2's airfields at Bologna and Verona, and 167 Gruppo (300 and 303 Squadriglie) was also based at the SQA3 airfield of Ciampino Sud (near Rome), though this battled against American and British bombers based in North Africa, not Bomber Command.

In terms of equipment, the Regia Aeronautica possessed a number of single-engined fighters. At the top end lay aircraft produced by the Macchi and Reggiane companies. The former produced three types of monoplane: the MC.200, powered by a radial engine and obsolete by 1942; the very good MC.202, which presented a real challenge to British fighters over Malta; and the highly impressive but scarce MC.205. Reggiane produced the Re.2000 and Re.2001, which were decent fighter aircraft. At the bottom lay the aircraft made and powered by Fiat, namely the CR.32 and CR.42 biplanes, and the G.50 monoplane, which were either obsolete or very poor performers. Italy's fighters improved considerably once the Daimler-Benz DB-601 powerplant (which powered the Messerschmitt Bf 109) had been installed. This reflected badly on Italy's aero-engine manufacturers – Fiat, Alfa Romeo, Isotta Fraschini and Piaggio – who all struggled to design a high-performance product (high-octane fuels, once they arrived, tended to cause Italian-made powerplants to internally combust spectacularly). The saving grace came in 1941 when Alfa Romeo commenced licence-production of the DB-601 (designated the R.A. 1000/RC.43 I by the Italians), and this transformed the fighters produced by Macchi and Reggiane. In total, Italy produced 10,345 aircraft during the war, of which 4,310 were fighters.

Yet critically, this production figure contained no purpose-built night-fighters, despite the importance of such an aircraft having been recognised by some air force officers and engineers as early as 1939. Instead the Italians made *ad hoc* modifications to its existing products, and the two aircraft chosen for a night-fighter version were the Fiat CR.42 and the Reggiane Re.2001. The selection of the former was perhaps no surprise, given the company's powerful hold over Italian arms production that made its production line continue to churn out anachronistic products. The CR.42 was adopted for night-fighting, designated the CR.42CN (Caccia Notturna), because it was outclassed for its daytime role, yet the type's production continued unabated. In the end, Fiat produced 44 night-fighter versions, which had illuminated instruments, an artificial horizon, a radio, flame dampers over the exhausts, a searchlight under the lower wing, and a matt-black finish (usually). CR.42CNs were initially formed into a special night-fighting unit (171 Gruppo) in October 1941, but incredibly this was soon disbanded, with its aircraft and crews simply distributed to *ad hoc* night-fighting groups (*sez intecettori*) based around Turin, Genoa, Bologna and Verona. CR.42CNs were often seen by British bomber crews but they rarely engaged, which was perhaps understandable given the limitations of this antiquated biplane.

As for the Re.2001, manufactured by the Reggiane aircraft company in Reggio Emilia, it was powered by the DB-601 engine which gave a top speed of 355mph at 18,000ft. Its ceiling was nearly twice that height, and coupled with a 940-mile range, the Re.2001CN presented the Italians with a golden opportunity for possessing an excellent single-engine night-fighter. But the number of Re.2001CNs produced was too insignificant to have any bearing on Bomber Command's operations to northern Italy. Those that were made suffered the continual problem of most Italian single-engine fighters, namely being lightly armed with small-calibre machine guns – a far cry from the firepower of a Bf 109. The Re.2001CN was equipped with just two Breda 12.7mm (.5in) and two Breda 7.7mm (.303in) machine guns; the CR.42CN had even less, with either one of the latter or two of the former. In contrast, the Regia Aeronautica's other single-engine night-fighter, the French-made Dewoitine D.520 (47 having been purchased from the Vichy government), packed a significant punch from its four 7.5mm MAC.34 Type M39 machine guns and one 20mm Hispano-Suiza HS.404 cannon (although it was seldom encountered by British aircrews).

The harsh fact was these single-engine aircraft were interceptors that were less ideal for the night-fighting role because they lacked the space (and engine power) to accommodate

Italy paid a high price for not developing a purpose-built night-fighter. The Italian Air Force received a handful of twin-engined German aircraft, one of which was the Messerschmitt Bf 110 C-3 pictured here. These came in small quantities and were worn-out second-hand examples, with few of the technical aids that helped the Luftwaffe fight Bomber Command in the skies over Germany. (Getty Images)



the weight and size of special equipment, such as airborne radars and a second crewman to operate such devices. A purpose-built twin-engine night-fighter was needed, but no Italian aircraft company was constructing such a type. The nearest thing was the less-than-ideal Breda 88, which, although a ground-attack aircraft, British bomber crews did occasionally remark on seeing. The Regia Aeronautica's Battle Order for 27 August 1943 shows 25 twin-engine night-fighters in service, all stationed north of a line from Leghorn (Livorno) to Ancona. Most of these were a consequence of the Italians having approached the Germans during winter 1942/43 for assistance with all aspects of their air defences, which included suitable twin-engine night-fighters (alongside requests for flak guns, searchlights and ground radars). The Italian Air Force duly received the Me 110 C-3 and the Do 217 J-1 and J-2 in very small quantities, a total of 18 of all types.⁵ It was a paltry sum with which to confront Bomber Command, although these aircraft were seen by British aircrews from time to time. Moreover, these German aircraft were 'cast-offs', stripped of their electronic equipment, and indeed it seemed only one J-2 was equipped with the FuG 202 Lichtenstein airborne radar, serving with 233 Squadriglia (59 Gruppo) based at Venegono. Their basic lack of ground-control communications meant interceptions remained rare, but, in any case, Italy's mountainous terrain caused problems with radio transmissions, thus hampering communications with ground-control. Modest numbers of Italian pilots were trained in Germany, the first leaving the night-fighter training school at Schleissheim in August 1942 and learning to fly the Do 217 at Venlo (in Holland), but this training was irrelevant because Germany's sophisticated air-defence network was very different to the primitive one found in Italy by July 1943.

In many ways, such a situation was partly down to Italian radar capabilities being slow to develop – despite the initial promise of experiments at the Guidonia radar research facility. Instead of developing air defence based on radar (like Britain's Home Chain system), Italy entered the war with very primitive means of detecting an enemy's bombers through acoustic listening devices or simple ground observers. Such a situation was the inevitable result of a military that had been earmarked for conquest, not home defence. Only in autumn 1942 did the Italians recognise a need for a better air-defence system following Bomber Command's major attacks, and they made a panicked appeal to Berlin for assistance. A total of 15 Freya and Würzburg radars were supplied, the former being useful for detection at distance whilst the latter ascertained an aircraft's altitude and position. But the number sent were too few, as most produced went to the Reich's own air defences. Moreover, what equipment the Germans did provide – namely radars, flak guns and searchlights – largely went to southern Italy to

5 Seven Do 217 J-1s, eight Do 217 J-2s and three Bf 110 C-3s.

defend the Luftwaffe's air bases in Sicily and Calabria. By summer 1943, the Italians' new air defence organisation, the Anti-aircraft Territorial Defence Command (Difesa Contraerea Territoriale, or DiCaT), wanted to implement a system akin to the Kammhuber Line, but it remained largely a hollow shell. Italian maps contained within the excellent Italian Air Force document series (held at the IWM) reveal this was being installed by July, but it was all very tentative, and this GCI (ground-controlled interception) system was soon invalidated by Window anyway. Consequently, there never was a cohesive air-defence network, in which radar sites detected enemy formations and fed accurate information to controllers who passed this on to night-fighter squadrons and flak units to assist interception. Italian night-fighters simply had to 'strike it lucky' to encounter a British bomber, searching blind, with hardly any air-to-ground radio communications.

As a result of this lack of specialist night-fighter equipment, tactics remained undeveloped and Italian pilots remained timid in battle. They often tended to approach a bomber from high up, making just one pass, and did not seem to embrace the attacking method of their German counterparts, namely the *von unten hinten* (below and behind). Moreover, the basics for this specialist role were lacking. The Night-fighter Training Establishment (Nucleo Addestramento Intercettori) at Treviso trained pilots in the difficult arts of night-flying, such as working from instruments and blind navigation, but this was always sub-standard, largely due to the lack of money and fuel to maintain adequate training programmes. By October 1942, Italy's night-fighters had flown just 380 operational hours,⁶ and this statistic revealed the gulf in battle experience between the two air forces once Bomber Command's major attacks against Italy finally commenced.

Comparison of losses by Group against Berlin and northern Italian targets, August 1943					
Group	Aircraft type	Berlin		N. Italy (Milan, Turin, Genoa)	
		Sorties	Missing	Sorties	Missing
1	Lancaster	209	13	245	-
3	Stirling	230	32	215	3
	Lancaster	21	1	27	1
4	Halifax	266	24	136	2
5	Lancaster	253	7	402	9
6	Halifax	107	10	47	-
	Lancaster	19	2	-	-
8	Mosquito	9	-	-	-
	Halifax	4	8	71	2
	Lancaster	163	6	203	2
	Total	1,331	103 (7.7%)	1,346	19 (1.5%)

In battle, although bomber crews quite often reported seeing Italian aircraft, very few intercepted a British bomber, let alone shot one down. The determination of Giulio Carestato, Macchi's test-pilot, who in a darkening sky single-handedly took on Bomber Command's aircraft during the daylight raid on Milan in October 1942 – damaging a Lancaster, running out of ammunition, returning to base, refuelling and rearming, and taking off again to resume combat – or the Do 217 crew on 16/17 July 1943 that shot down one Lancaster and damaged another, proved rare exceptions. The lack of reliable radio wavelengths for communication and a ground-control organisation meant Italian night-fighter pilots were always hindered by considerable difficulties.

6 Quoted from R. Overy, *The Bombing War: Europe 1939–1945*, Allen Lane (2013), pp.514–16.

The unsatisfactory air-defence situation meant the Italians proceeded with the only course quickly available: ask the Germans to do it. The Luftwaffe did arrive, but far too late. The Germans formed a Kammhuber Line system across northern Italy comprising 33 'boxes' by summer 1943, and had moved night-fighter units there to utilise the system. As Mussolini's regime tottered, Nachtjagdgeschwader 2 (NJG2), the Luftwaffe's main night-fighter unit in the Mediterranean since November 1941, was redeployed there, although its crews were soon sent to Holland to counter Harris' intensifying attacks on Germany. The Italians also had the Luftwaffe defending the approaches to Italy from the north-west, namely from across France. Here, aircraft from NJG4 intercepted British bombers and would inflict a steady stream of casualties on Bomber Command. The Paris area comprised the westernmost part of the Kammhuber Line, which defended Germany itself, and going to Italy meant passing through this network. Bomber Command's Italian operations did incur losses, but these were mostly over northern and central France, not Italy. The Luftwaffe's AA guns in France also meant there were some flak 'hot spots'. The Paris area was best avoided, defended by batteries that included 26 heavy guns, five medium guns and 18 light guns, and it was considered wise to avoid flying near Avignon and Toulon. But by far the worst place was the Pas de Calais, which aircrews always remarked on as being 'very active', owing to its 34 heavy flak batteries and 26 medium/light gun batteries, which would bring down a number of British bombers.

Flak, searchlight and radar defences

The defence of Italian cities also comprised flak defences and searchlights, and the situation here was no less unimpressive. As Baldoli noted, Italy's air commanders had themselves told Mussolini and Ciano before the war that Italy's air defences were made up of 'wretched weapons'. Bomber Command's first attack on Italy on 11/12 June 1940 had seen the weak air defences in Turin become all too apparent, and a trend among Italians of doubting whether the regime could protect them from aerial attack soon took hold.

Italy's Air Defences (Difesa Contraerea, or Dea) were always short of decent flak guns. Right from the beginning, Mussolini made several appeals to Hitler for AA artillery, which included an offer on 10 June 1940 of an Italian armoured division in exchange for 50 guns, but this was rejected. Instead, Italy had to fall back on its domestically produced weapons, which were hardly sufficient. Starved of funds, the Italian air-defence system, such as it was, initially relied on weapons of World War I vintage, namely the 76mm flak gun (from 1916) and the French-made St Étienne M1907 machine gun, both of which struggled to hit anything flying above a moderate altitude. The lack of money during the 1930s meant

updates to the flak system had been minimal, and at worst neglectful, as a substantial number of AA batteries fell into disrepair. Italy was simply fortunate that Bomber Command could not attack its cities in strength at this time, and when in autumn 1942 Harris did so, the flak situation had somewhat improved for two reasons. First, the Italians were deploying the Ansaldo-produced 90/53mm heavy flak gun, which, Baldoli comments, 'was generally regarded during the war as one of the finest anti-aircraft weapons'. Yet even then, confused production priorities saw well under half of the 1,700 ordered guns produced because the Italians continued to make the 1916 model, a chronic misuse of labour, resources and what little money was available for flak defences. The position was perhaps marginally better with regards to light flak, with Breda producing in considerable quantity the 20mm gun. The firm had received the order as early as 1936 owing to the regime's edict that critical factories needed to be defended, and consequently bomber crews did experience fire from this light gun

An Italian heavy flak gun, the Cannone 90/53. The gun could be mounted on a Lancia-made lorry chassis and serve as an anti-tank weapon, like the Germans' formidable 88s. Italy's flak defences would be strengthened by the acquisition of this infamous German weapon during winter 1942/43. (Bundesarchiv, Bild 1011-480-2246-06A)



– often described as being ‘hosepiped’ – from the rooftops of industrial sites in Turin and Milan, including the Breda Works itself. The weapon could be effective because British aircraft often bombed factory targets well below 7,000ft.

With slow production of the 90/53 gun, yet his northern cities now experiencing heavy attack, Mussolini begged Hitler for assistance on 19 November 1942. In December Hitler agreed – largely for political reasons – to despatch heavy flak guns to his ally, and 100 batteries of the ferocious 88s and 30 searchlight batteries were transferred. German gunners manned these weapons, but could often be reckless. During the raid on Milan on 14/15 February 1943, they fired on four Italian night-fighters, causing the Regia Aeronautica’s pilots to cease their interceptions. Italian protests were simply waved away. Harmony and cooperation between allies this was not, and the issue of ‘(un)friendly fire incidents’ was never really resolved. In spring 1943, Hitler decided to transfer most of the flak guns and searchlights back to the Reich; after all the Ruhr needed defending urgently.

Nonetheless, British airmen did detect that Italy’s flak defences had been strengthened by early 1943. Charlwood recalled how the squadron’s intelligence officer described Turin’s air defences to be as severe as Düsseldorf’s. In terms of numbers, a British report compiled after the 12/13 July operation found that most crews believed there were 30–40 heavy guns and 20–30 light guns situated in and around Turin, with 40–50 searchlights ringing the city.

Estimated flak and searchlight defences of Italian targets, October 1942–August 1943 ¹			
Target	No. heavy flak guns	No. light flak guns	No. of S/Ls
Turin	30–40	20–30	40–50
Milan	40–50	25	40–70
Genoa	15–20	30	50
La Spezia	Few	Few	15–20
Leghorn	10–20	Few	6

¹ Based on reported observations by British aircrews and analysis by the RAF’s CIU

Turin was in many ways *the* industrial target of Italy and became quite heavily defended, yet its flak was always described by bomber crews as inaccurate. For Italian AA defences remained hamstrung by a lack of the necessary support equipment, such as an observer corps and ground radars, placed in a coordinated system of air defence. Especially critical were the lack of radar-directed flak predictors that meant fire remained restricted to ‘barrage form’. One 83 Squadron pilot, Flt Lt Walter Thompson, noted that Milan’s flak on 14/15 August ‘seemed ferocious as we approached the city but they could not have been guided by radar, or if they were, it was by a radar not as good as the *Würzburg*, for it was soon apparent that the searchlights remained almost stationary and the flak was fired at random; together they amounted to no defence at all’.

Generally, this can be an appropriate description of Italy’s air defences during World War II. Such a performance, Baldoli writes, reflected ‘many of the failures of the Fascist regime itself’, which, in the first instance, centred on not taking air defence seriously and chronically under-funding *all* aspects of its development later on. This was compounded by chronic inter-service rivalry, with Regio Esercito and Fascist Militia controlling the flak guns, the navy retaining responsibility for defending its bases, and the Regia Aeronautica for Italy’s fighter defence. Italian civilians would pay a high price for this unsatisfactory situation, as they had long feared.



Damage to a famous landmark of Milan, namely the Galleria Vittorio Emanuele II. Though damaged, the destruction was in no way comparable to that seen in German cities. This can be attributed, as seen here, to the sturdy stone construction of many Italian structures. (Getty Images)



CAMPAIGN OBJECTIVES

A vital hub of Italian shipbuilding and shipping: the port of Genoa (above). The city also contained the important target of the Ansaldo Works (below). Part of the huge arms conglomerate with Fiat, Ansaldo produced tanks and naval guns, alongside warships such as the battleship *Littorio* in the company's shipyards. (Getty Images)

The industrial life of Italy as a whole depends on the North ... If this weight of attack could be concentrated on the main centres of Italian industry such as Milan, Turin and Genoa, it should effectively paralyse activity at those centres, create widespread civil chaos and conditions such that it would be impossible to continue to plan the supply and maintenance of Italy's armed forces.

JIC(43)167 (Final), 'Defeat of Italy by Air Attack Alone', report by the Joint Intelligence Sub-Committee, 16 April 1943

By spring 1940, relations between London and Rome had worsened, and many British officials believed an Italian declaration of war was only a matter of time. When it happened, the Air Ministry believed there was an urgent need to bomb Italy because:



Enthusiasm will not be high amongst the populace; in fact fear of the consequences will be uppermost. It is therefore essential that no time should be lost after Mussolini has gone to war, to bring home to the Italian nation that the Allies are not a feeble and spent force, as they have been led to believe. Failure to take immediate action will result in a rise in morale amongst the inhabitants and the view that 'they have got away with it'. That which they fear most and are least prepared to combat is air attack.

Some weeks later, the matter had become more pressing owing to the German invasion of France, and on 26 May, French

Prime Minister Paul Reynaud visited London to discuss Italy's imminent entry into the war. Five-days later, the Anglo-French Supreme War Council's tenth meeting concluded offensive operations against Italy should commence 'at the earliest possible moment' because they assumed 'many Italians were opposed to war, and all should be made to realise its severity'. Whilst the British were to attack targets in north-west Italy, particularly



Turin and Milan's aircraft and aero-engine industries, the French were to conduct the naval and aerial bombardment of Italy's oil supplies, which were largely stored along the coast from Genoa to Naples, with Fleet Air Arm aircraft from the *Ark Royal* joining in. This plan for bombing Italy was yet another aspect of British help to France during May–June 1940, and was no doubt intended to stiffen French resistance at a time when the Germans had broken through in north-east France and the Low Countries. Consequently, Churchill sent a note to the Air Ministry titled 'Plan for Attack of Italian War Industry', which detailed how a Wellington squadron would operate against Italian targets from airfields in south-eastern France. The Prime Minister left the commanders-in-chief of both Bomber Command and the British Advanced Fighting Force (BAFF) to undertake preparations on administration, objectives and targets, which were completed by 10 June, the day of Italy's entry into the war. The Senior Air Staff Officer (SASO) at HQ Bomber Command, Air Vice-Marshal Norman Bottomley, then issued 'Operation Instruction No. 36', which informed 3 Group about the procedure for rotating a squadron to south-eastern France every two days. Although a lengthy document, it highlighted that Bomber Command's objectives in attacking Italy, ambitious at this stage, were:

to cripple the Italian aircraft industry, to destroy stocks of oil and to cause widespread disturbance and demoralisation amongst the Italian population, especially in the Northern industrial area.

To fulfil these aims, specific targets were listed in order of priority in Appendix 'A' (reproduced in table below). To assist with target selection, the observations made in Appendix 'C' – 'Notes on the Vulnerability of Italy to Air Attack' – were to be considered. This stated that a dependence on imports of oil, coal and iron meant Italy was extremely vulnerable to air bombardment (and naval blockade) of its ports. Especially pertinent for the airmen were certain observations that made Italy 'particularly vulnerable to air attack'. The first was that 'three-quarters' of Italian industry and half of its population 'are concentrated North of a line joining Leghorn and Ravenna'; southern Italy, in contrast, contained few major industrial and population centres, except for Rome and Naples. The Fascist government was aware of this vulnerability and had formulated an industrial dispersal plan as early as 1938, which aimed at placing 50 per cent of Italian industry either side of the River Po. A one-off payment was offered by the regime, but little had been done to implement the dispersal programme by June 1940. The second observation was that 'the three most important centres' – namely Turin, Milan and Genoa – lay only 150 miles from the French frontier and were therefore within easy reach of British (and French) bombers based in southern France. Moreover, Italy's engineering industry was relatively small, concentrated into a few compact and vulnerable

An aerial view of Leghorn. This port was bombed on 24/25 July 1943 by 33 Lancasters returning from North Africa. The bombers aimed to disable the docks and destroy the oil refinery and storage tanks (top right). (Getty Images)

factories within these cities, which the Air Staff considered were ‘easy to locate on a clear night’. Finally, underpinning all this was a British assumption that bombing would work because ‘Italian psychology is ill-adapted to war’. These observations would therefore be used for analysing the targets listed in Appendix ‘A’.

Air Staff assessment of Italian targets and industries, June 1940				
Order of Priority	Target Number	Place	Type of Works	Remarks
1.	T.64.	TURIN	Fiat aero-engine and motors.	Produces 90% of Italy's motorcars, and about 40% of her aero-engines. Employs 30,000 workers. Concrete buildings 6-7 stories high. Covers area of 1 sq. mile.
2.	T.12.	SESTO SAN GIOVANNI (Milan)	Breda Airframes and components.	Inflammable wooden buildings.
3.	X.80.	GENOA (Conigliano) [sic]	Ansaldo, Piaggio.	Propellers [sic], engine parts, metal frameworks, tubes, etc.
4.	O.4.	PORTO MAGHERA [sic] (Venice)	Oil Refinery.	Congested Industrial area at Port of Venice. The target is an important oil refinery and storage centre.
5.	T.14.	TURIN	Fiat Airframes.	
6.	U.214.	SESTO SAN GIOVANNI (Milan)	Marelli.	Produces 90% of magnetos.
7.	T.13.	MILAN	Caproni Airframes.	Inflammable wooden buildings and aircraft.
8.	T.11.	VERGIATE (nr. Sesto-Calcode [sic], Lake Maggiore)	Savoia-Marchetti Airframes.	Not stated.
9.	R.1.	SESTRI FUNENTE [sic] (Genoa)	Not Stated.	Aluminium casings, radiators, gearbox cases, etc.
10.	O.130. O.131. O.157.	VADO [LIGURE]	Oil Refinery.	Capacity 130,000 tons (Stocks).
11.	O.11. O.12. O.145. O.146. O.147.	NAPLES	Oil Refinery.	Capacity 150,000 tons (Stocks).
12.	O.7.	TRIESTE	Oil Refinery.	Capacity 125,000 tons (Annual output plus stocks).
13.	O.156.	SAVONA	Oil Refinery.	[Capacity] 120,000 tons (Stocks).
14.	O.10.	BARI	Oil Refinery.	[Capacity] 100,000 tons (Annual output plus stocks).
15.	O.8.	LEGHORN	Oil Refinery.	[Capacity] 100,000 tons (Annual output plus stocks).
16.	O.158.	LEGHORN	Oil Refinery.	[Capacity] 33,000 tons.
17.	S.4.	BRESCIA	Armament Works.	Not stated.
18.	T.63	REGGIO (Emilia)	Reggiane aero-engine.	Not stated.
19.	Y.219	BOLOGNA (Reverara) [sic]	Rly. [stock] & Marsh'g. Yd.	Not stated.
¹ Table from Appendix "A" to Bomber Command Operation Instruction No. 36, dated 10 June 1940				

Operationally, this meant Bomber Command were to concentrate initially on breaking ‘the morale of the Italians’ by making heavy attacks on the four most important industrial centres (Targets 1–4); followed by the ‘complete dislocation of the Italian aircraft industry by destroying the remaining 5 important airframe and component factories’ (Targets 5–9); and



The iconic Fiat factory at Lingotto, Turin, with its famous test track on the roof. The Fiat Works comprised numerous sites through the city, but those at Lingotto and nearby Mirafiori were consistent targets during Bomber Command's raids on Turin. In the background is the start of the Alps, which the bombers would have to traverse upon leaving Turin. (Getty Images)

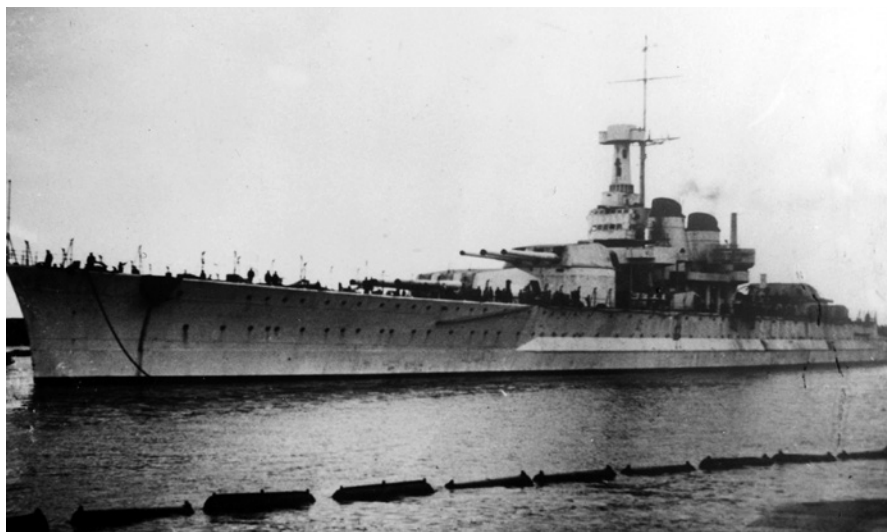
finally the destruction of 'the most important oil refineries and tank farms' (Targets 10–16). By 12 June, the target list had expanded to include the armament works at Brescia, the Reggiane aero-engine factory at Reggio Emilia, and the marshalling yards at Bologna (Targets 16–19). Above all, 'the objective for night attack should be selected', it was emphasised, 'with a view to spreading the moral[e] effect over as wide an area as possible'. Should attacks on industry and civilian morale not yield Italy's capitulation, then a final assault was to be undertaken against oil refineries and storage tanks to break the Italian war machine, for Italy had, the British estimated, sufficient oil for only eight months of war.

Yet Bomber Command's operations would overwhelmingly remain focused on Turin and Milan during this early stage. This was because the Air Ministry's bombing plan of September 1940 had stressed that Italy's 'airframe and aero-engine factories were situated near her big northern industrial towns where the moral[e] effect of air bombardment was likely to be considerable'. That combination of aims, namely the industrial alongside the woollier notion of morale, continued to be emphasised. But the two objectives were not wholly compatible, because a notable feature of Italy's aircraft industry was the sheer number of plants situated at specific aerodromes. Fiat assembled aircraft at its Aeritalia airfield site, some miles west of Turin, and the Caproni plant was located at Milan's civil airport (Linate), well away from the city centre. Beyond these, the final assembly line for the MC.202 was at Lonate Pozzolo airfield, whilst the Piaggio Aero-Engine Works, Reggiane factory, Savoia-Marchetti assembly plant and Caproni subsidiary plants were located at the remote aerodromes of Pontedera, Reggio Emilia, Vergiate and Vizzolo Ticino. The Italian aircraft industry was therefore fragmented, yet this would cause a problem for the Italians because it meant a heavy reliance on road and rail transportation to keep these factories supplied with raw materials, which limited the number of aircraft Italy could produce.

Turin, Milan and Genoa

By mid-June 1940, the British had developed a bombing programme for its air offensive against Italy that comprised a number of factories. Attempts, if not always successful, would

The target of La Spezia naval base, which from late 1942 became the Italian battlefleet's home port (after Mediterranean-based bombers had rendered Italy's ports in the south vulnerable). The three powerful Littorio-class battleships were all moored here by February 1943. La Spezia also contained the San Bartolomeo Torpedo Works, which manufactured the two-man 'chariot' torpedo that did such damage to the ships of the Mediterranean Fleet anchored in Alexandria in December 1941. (Getty Images)



be undertaken to hit these targets in 1940. Yet there would be changes over time. On one level, the target list came to embrace an *ad hoc* addition by early 1943, namely the La Spezia naval base. On another level, with Bomber Command's methods of attacking targets having shifted to area bombing, there was a focus on simply bombing the cities of Turin, Milan and Genoa, which formed Italy's 'industrial triangle' that was its equivalent of the Ruhr, as opposed to specific factories. And just like German cities, these three Italian cities were also given fish-based codenames: Turin – *Char*, Genoa – *Shark*, and Milan – *Gudgeon*.

In July 1943, HQ Bomber Command created a Zone Map Information Sheet on Turin. This highlighted the city's overall population (637,000 in 1936), its population density (4,900 people per square kilometre) and the size of the city centre (800 acres). Attention was particularly drawn to the old town's vulnerability, which was described as being 'a rectangular street net[work] of very narrow streets ... which is conditioned by the lay-out of the original Roman castrum ... [thus forming] the site of the most congested and oldest part of the present city'. This area was labelled as Zone 1, and contained the main railway station (Porta Nuova), large marshalling yards, the military barracks and Royal Arsenal. Zones 2 and 4 were the industrial and residential areas, which had expanded outwards to the north-eastern, south-western and western suburbs during the early 20th century. Here, well-made tenement flats often surrounded factories engaged in the engineering, textile, chemical and tobacco industries. Turin's most famous firms included Lancia (lorries and engines) and the State Railway Workshops (railway rolling-stock), but above all, the city was the home of Fiat – an industrial giant spread over ten sites making steel castings, tank armour, all type of engines, railway rolling-stock and rubber products. The firm's most famous site was at Mirafiori, and from 1940 produced tank engines, lorries, machine tools and the DB-605 aero-engine under licence. Nearby was the Lingotto plant, whose iconic factory building contained a test track on the roof. Turin was therefore Italy's major industrial city, employing a large number of industrial workers who had a history of left-wing activity. This made Turin a particularly restive place as the war continued – something which Bomber Command aimed to capitalise on – and the city would be affected by mass strikes in spring 1943. It was little surprise that HQ Bomber Command therefore perceived as 'the most vulnerable area' Turin's city centre and adjacent industrial districts – a strip of land along the Po's western bank that seemed ripe to achieve the goals of area bombing, namely destroying a city's war industries, infrastructure, transportation and civilian morale.

Fiat was part of an industrial conglomerate that included Ansaldo, and this linked Turin with another Italian city, namely Genoa. Ansaldo dominated this port city, with its massive armament works, shipbuilding industries and fitting-out yards. These yards had built the battleships *Giulio Cesare* and *Littorio*, and in late 1942 was in the process of converting an ocean liner into an aircraft carrier. Around the harbour were numerous dockside warehouses, which stored supplies for Italy's war in North Africa. Genoa also contained a number of major railway lines that linked it to Turin in the north and Rome in the south, and two railway stations. HQ Bomber Command had also concluded that Zone 1 – Genoa's city centre – was a warren of old streets containing many residential properties and commercial premises.

Milan, the city in which the *Fasci di combattimento* (Mussolini's combat organisation) had been founded on 19 March 1919, was synonymous for numerous churches, including a famous cathedral (Duomo), museums, art galleries, palaces, universities and the famous La Scala Opera House. The city was also 'the principal financial and commercial centre of Northern Italy', the British noted, where some of the most famous Italian companies engaged in war production, such as Alfa Romeo (producing Daimler-Benz aero-engines under licence), Isotta-Fraschini (making aero-engines, military lorries and land armaments), Breda (manufacturing aircraft, tanks, guns and locomotives), and Pirelli (producing tyres and electrical cables). Other industries included the State Railway Works (locomotives and rolling stock) and SAFAR, which made radios for the Regia Aeronautica. Given its industrial, economic and political importance, it was no surprise that Milan was also '[the] main transport centre of North Italy', containing the famous terminals of Central Station and Stazione di Milano Porta Nuova, and a number of goods depots and marshalling yards. The city's military targets were numerous barracks, army transport depots and headquarters of the SQA1 air defence sector.

Phases I–IV of the bombing campaign against Italy

Bomber Command's offensive against Italy was a campaign of phases with its own distinctive aim deduced from examining the selected target, target system or aiming point. Phase I, lasting from mid-June 1940 to September 1942, focused on destroying key sectors of Italy's war economy, especially aircraft production, and eroding civilian morale. Indeed, Bomber Command attacked Turin on 10/11 September 1941 after the Foreign Office had distributed a paper on Italian morale that stated 'apathy and war-weariness are the salient characteristics of the prevailing mood in Italy'. Such a trend weakened both the Fascist government's domestic authority and usefulness to Germany as an ally, and Foreign Secretary Sir Anthony Eden therefore wrote of 'the desirability of hitting Italy whenever possible, wherever possible and as hard as possible'. An exception during this opening phase was Genoa, bombed in late September 1941 in order to support a Malta convoy (Operation *Halberd*). But Sir Archibald Sinclair, the Secretary of State for Air, also suggested that as an Allied victory in Libya would have 'an even greater effect on Italian morale than such sporadic bombing as we might be able to do ... the lines of communication across the Mediterranean ... is the best target for us to concentrate upon, even from the standpoint of morale'.

Phase II occurred during late October 1942 to support the British Eighth Army's offensive at El Alamein. Reflecting Sinclair's earlier view, Axis supply lines to North Africa meant Genoa was targeted relentlessly, but so was Milan, bombed to show the Italian population the regime's inability to defend the very city of the Fascist movement's birthplace. The manner by which Milan was attacked, namely a daylight raid followed immediately by a night-time one, showed how it was designed to reveal Italy's air defences were especially weak. This period of attack, lasting a week, soon morphed into Phase III, that lasted from 6 to 16 November. This was undertaken to support the other major operation in the Mediterranean during this time, namely Operation *Torch*, the landings in French North Africa. All this reflected the strategic vision



The Alfa Romeo factories in Milan. This was a reconnaissance photograph taken by No 106 (PR) Wing after Bomber Command's heavy attack on Milan on 12/13 August 1943, which saw considerable damage inflicted on the city's industries, including Alfa Romeo. This damaged a large number of the licence-built Daimler-Benz aero-engines that were being made and stored in the factory. (IWM C 3737)

information on 'the situation in Italy', which was 'so bad that the request for an Armistice may be expected at any time'. Churchill, believing this was 'premature', nonetheless told Portal that 'it bears on the need to attack them'. From 18 November to 12 December (Phase IV), Harris did just that. During this time, Turin was repeatedly pounded by Bomber Command, while British and American bombers in the Mediterranean did the same to Naples in the south. The British Legation in Berne soon received information from an Italian source indicating that 'the Allies' bombing has greatly affected the morale of the Italian people ... [and that] all anti-Fascist elements hope for its continuation and intensification' to create the conditions for the regime's overthrow.

Making bombing Italy an official commitment: the Casablanca Directive

Bomber Command's attacks on Italy during late 1942 were a product of temporary arrangements, not an official Directive. But given that its Italian operations were set to continue in 1943, it was necessary for the Air Ministry to issue specific instructions on bombing Italy. Owing to Sinclair's prompting, which included emphasising that Churchill's 3 December 1942 order had pointedly stated 'the heat should be turned on Italy', an Air Ministry instruction was needed that placed Italy in a definite order of priority alongside Bomber Command's many other commitments at this time, such as the Biscay ports and targets in Germany. On 17 January 1943, such a statement was duly delivered. Harris was informed that the industrial centres of northern Italy – Turin, Milan, Genoa and possibly La Spezia (if Swiss airspace was not violated) – were 'the first priority' after the French U-boat bases, Berlin and the armaments centre of Schweinfurt in Bavaria. On 21 January, Attlee and Eden informed Churchill, away at the Casablanca Conference, that the War Cabinet had concluded that 'knowledge of all rough stuff coming to them is surely more likely to have desired effect on Italian morale'.

The timing of this was no coincidence. The previous day at the Casablanca Conference, the Combined Chiefs of Staff (CCoS) had circulated a memorandum on 'the objects of the bomber offensive from North Africa'. This formed the basis of the Directive that governed the bombing offensive against southern Italy by MAC (Mediterranean Air Command), with attacks on Axis air and naval forces in preparation for Operation *Husky* and support of the Sicilian invasion once it began. Without prejudicing these particular aims, 'bombing objectives', the CCoS stated, 'will [also] be chosen with a view to weakening the Italians' will to continue the war'. On 21 January, approval was given for the combined bombing offensive by British and American heavy bombers based in the UK, the now (in)famous Casablanca

of Churchill, who believed that, until summer 1943, the focus remained the Mediterranean, and required the support from all forces, even from those outside of the Mediterranean theatre, such as Bomber Command. As a result, on 7 November the Air Ministry informed Harris that the Admiralty attached 'great importance' to attacking Genoa because of a heavy concentration of transport ships. Deterring these from sailing meant Bomber Command launched four attacks on this port in ten days. By mid-November, the deteriorating Axis position in North Africa meant Harris switched targets to one where serious damage could be done to civilian morale and Italian arms production. The Foreign Office had received a telegram from Buenos Aires that stated the Argentine Ministry of Foreign Affairs had received

Directive. Its 'primary object', namely 'the progressive destruction and dislocation of the German military, industrial and economic system, and the undermining of the morale of the German peoples to a point where their capacity for armed resistance is fatally weakened', has been quoted many times. Less well known is paragraph three, which stated:

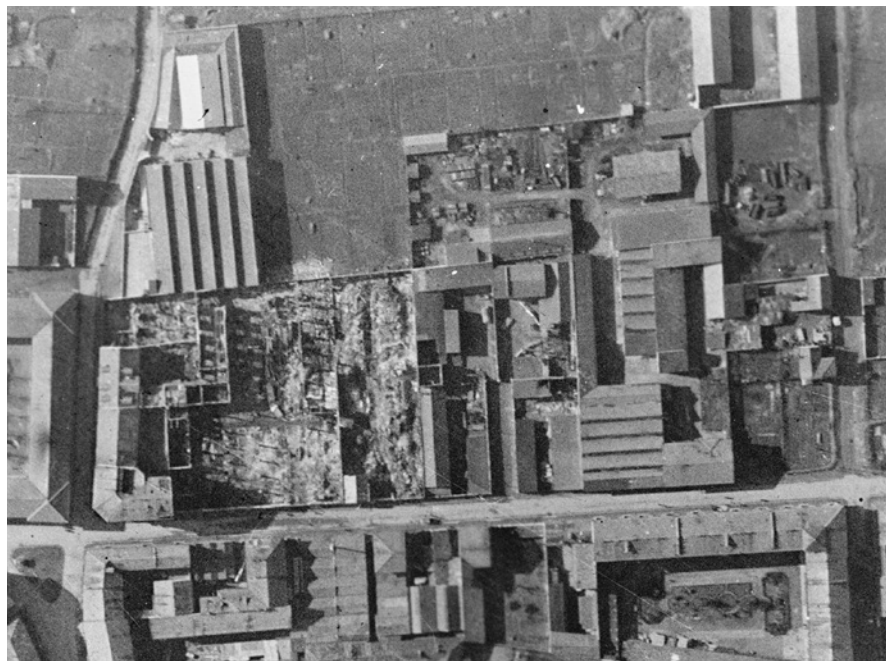
You may also be required, at the appropriate time to attack objectives in Northern Italy in connection with amphibious operations in the Mediterranean theatre.

The Casablanca Directive was sent to Harris on 4 February – the day he sanctioned Bomber Command's first attack on Italy in 1943 – and amounted to the integration of Harris' bomber force with the Allies' wider military operations against Italy. Indeed, on 24 January, HQ Bomber Command had informed the Air Ministry that attacking La Spezia was possible without violating Swiss airspace. Consequently, 'La Spezia should normally come after Milan and Turin in order of priority', the ACAS(Ops) replied, 'but a concentration of enemy naval units within the base would automatically increase its relative importance'. It did so, because the Axis' growing difficulties in Tunisia meant it was essential for the Allies to prevent any kind of maritime assistance to the German and Italian armies that remained there. Therefore, by spring 1943 Harris was to not just destroy Italian industry and morale, but was also required to mount attacks against Italy that complemented Allied strategy in the Mediterranean. Yet, as this chapter will show, the 'Bomber Barons' at this time would push the notion for defeating Italy by bombing alone.

In the meantime, the new instructions on Italy precipitated Phase V, with attacks to worsen morale in Turin and Milan made during February to coincide with Italy's defeats in Libya and southern Russia, and heavy raids on La Spezia undertaken during April.

Defeating Italy by 'air action alone'

Just before the Axis' final surrender in Tunisia on 13 May 1943, Fougier told Marshal Vittorio Ambrosio, the army's chief of staff, that Italian cities were 'perhaps about to see,



The Breda Works at Sesto San Giovanni, in northern Milan, which produced a range of armaments including machine guns and aircraft. The factory, as shown in this vertical photograph, suffered damage on 14/15 February 1943. (IWM C 3430)



A target to avoid 1: the Vatican and central Rome. A considerable debate engulfed the Air Ministry about bombing Rome, be it by Bomber Command or bombers from MAC. Concern that poorly aimed bombs – in modern speak, ‘collateral damage’ – would hit the city’s cultural and religious sites caused the Air Ministry to never sanction an attack by Bomber Command on the Italian capital. Instead, attacks in July and August 1943 were undertaken by American heavy bombers based in the Mediterranean because it was felt the precision-bombing philosophy would mitigate against this possibility. (Getty Images)

stone, and we must now begin to study how to exploit this local success... Every reasonable alternative should be explored.

‘Every reasonable alternative’ had arisen because the Prime Minister wanted a coherent, concrete, and, above all, *British* proposal for defeating Italy, which could then be presented to the Americans at the Second Washington Conference (*Trident*), set to open in May. For British airmen, Churchill’s request – alongside long-standing American opposition to an invasion of mainland Italy – ignited the visions of those who believed an enemy could indeed be defeated by ‘air action alone’.

The body charged with assessing this possibility was the Joint Intelligence Committee (JIC), which reported its findings on 13 April. Though the committee did conclude that Italy could ‘be forced by air bombardment to seek an armistice’, the problem lay in achieving the necessary heavy scale of attack, which they stated meant the bombing programme could not be started until October because

the shortness of the nights will prevent the bombing of Northern Italy by our home-based bombers, and we are given to understand that this area will also be out of effective ranges of the types of Allied bombers likely to be based in Tunisia or Sicily... Air attack, must, in the main, therefore be confined to targets in Central and Southern Italy ... [but in this area] there are only five large centres of population – Rome, Naples, Bari, Reggio and Taranto. Although these towns contain industries, their destruction would not vitally affect the economic life of the country as a whole which, apart from agriculture, is mainly dependent on the North. Such destruction as could be done in the Northern industrial areas, with the scale of air attack given, would not suffice to destroy Italy’s means of continuing the war within the time with which we are concerned.

However, as Italy’s cities had been bombed when Libya and Tunisia were lost, the JIC believed the Italians had had ‘a taste of what is in store’ and, therefore, if defeat in Sicily

is followed by heavy air attack on Naples and other targets in the South (even including Rome), coupled with raids on the [modest] scale suggested, on Northern Italy, it is possible that within the period in question, Italian morale might collapse to such an extent as to force the Italian Government to sue for an armistice.

by an irony of fate, the realization of Douhet’s [General Giulio Douhet, the Italian airpower theorist of the 1920s] vision’. There was indeed irony in this statement. For right at that moment, the British were examining whether strategic bombing itself could bring about Italy’s defeat (and thereby not just remain in a supportive role of amphibious operations, as the Casablanca Directive had stated). This had been prompted by Churchill, who on 2 April stated his view on future strategy in the Mediterranean:

Hitherto the capture of ‘Husky’-land has been regarded as an end in itself; but no one could rest content with such a modest and even petty objective for our armies in the campaign of 1943. ‘Husky’-land is only a stepping-

What was therefore being proposed for the time before October (when Bomber Command could then begin sustained heavy attacks on northern Italy) was a bombing policy that hedged its bets between the strategic aim of destroying morale and precipitating Italian defeat, and the tactical goal of assisting Allied landings on mainland Italy.

The following day, the Air Ministry waded in with its plan for bombing Italy. After months of seeing – or being forced to see – attacks on Italy as being in support of land and sea operations in the Mediterranean, the Air Staff advocated ideas of ‘pure’ bombing – in other words the implementation of Douhet’s theories against the land of his birth. Working on an assumption it was to commence immediately after Sicily’s fall ‘to take advantage of the wave of demoralisation which will certainly spread over Italy’, the Air Staff proposed a bombing campaign by aircraft based in lands all around Italy: in North-West Africa, Malta, Sicily, Sardinia, Corsica and the UK, which was considered ‘the only base’ from which heavy bombers could attack Turin, Milan and Genoa. But it was also recognised how Bomber Command’s involvement could not be immediate, though the Air Staff did state a sufficient amount of darkness would exist from 16 August. Nonetheless, they concluded that:

although we cannot say that Italy would be knocked out by air action alone after a successful ‘Husky’, we nevertheless feel that the effect of such air action on a tottering Italy might bring her so near to suing for peace that it merits to be planned and carried out.

This showed that within the Air Ministry there were many ‘Bomber Barons’ who wished to achieve victory over Italy through airpower, which has remained overshadowed by Harris’ similar sentiments for defeating Germany by launching the battle of Berlin. The final offensive against Italian cities lay some months ahead, but Bomber Command would undertake operations to support Operation *Husky* (Phase VI) against Turin, six transformer stations, and the port of Leghorn.

In August 1943, Bomber Command commenced attacks, in fulfilment of the JIC and Air Staff’s views expressed earlier, that targeted Italian morale precisely in order to pressurise the new government of Marshal Pietro Badoglio to quit the war. For accompanying the bombs were millions of propaganda leaflets written by the PWE designed to spread alarm, despondency and defeatism among the Italian population. Starting with simultaneous small-scale attacks against Turin, Milan and Genoa on 7/8 August, the campaign morphed into something much heavier. This was because of Churchill’s 8 August signal to Eden ordering:

the war should be carried forward against Italy in every way that Americans will allow. We do not have to ask their permission about bombing the towns of Northern Italy, and Harris should be limited only by weather.

This statement is interesting, for it came at a time when the British and Americans were discussing the possibility of bombing Rome. Yet clearly Churchill wanted to preserve Britain’s independent action when it came to attacking Italy’s northern cities. He had goals – both military and political – when it came to the Mediterranean theatre, namely a British-led victory, in order to maintain Britain’s equal voice within the Grand Alliance.

A target to avoid 2: Florence. A city of undoubted beauty, containing the famous cultural and religious sites of the Campanile, Baptistry, the Palazzo Vecchio and the city’s Duomo. Like Venice and Rome, Florence was excluded from Bomber Command’s Italian target-list by a Directive dated 2 December 1942. This instruction came after target dossiers, maps and specific aiming points for Venice and Florence had been issued some days previously. (Getty Images)





THE CAMPAIGN

An aiming point photograph from a high-flying Lancaster showing the attack on the Italian naval base at La Spezia. A lower-flying aircraft and the camera's flash can be clearly seen, together with the outline of the port and its surrounding built-up areas. A Littorio-class battleship has been indicated by the photographic analysts of the Central Interpretation Unit (CIU) at RAF Medmenham. (IWM C 3697)

We should realise that, as time passes, aerial bombardment will become our daily fare.

Ciano Diary, 23 October 1942

Aim to be Attained. To employ forces of Bomber Command to destroy the war potential and morale of the Italian Nation.

Memorandum by Harris, 13 November 1942

Bomber Command's first campaign against Italy, June 1940–January 1941

On 10 June 1940, the bombers destined for the airfields at Salon and Vallon, near Marseilles, given the semi-comical name of 'Haddock Force' (officially No 71 Wing), received their orders from HQ Bomber Command. Operation Instruction No 36 was proof that a bombing programme against Italy had been formulated; but it proved far harder to implement.

Indeed, the campaign against Italy started in farcical circumstances. Haddock Force's Wellingtons had flown to France on the morning of 11 June as planned, but their operation that night represented a risible opening, one which required the intervention of the British and French governments. Churchill, in France and about to have dinner with Reynaud, took a telephone call from the C-in-C BAFF, Air Vice-Marshal Arthur Barratt, who explained that local French authorities had prevented take-off by blocking the runway with lorries and farm carts. The evening ended, Churchill later wrote sardonically, and 'we all went unhappily to bed in this disordered chateau'. The Wellingtons took to the air, but not in the direction of

Italy. Instead, in less than 24 hours, Haddock Force had packed up, returned home and been told to await further orders. Portal later suggested all this had occurred because of 'a reversal of opinion' among the French High Command, who feared Italian reprisals on cities in southern France. Meanwhile, the shambolic opening was completed by 4 Group's Whitleys which, having landed in the Channel Islands for extra fuel, were affected by severe thunderstorms and icing over the Alps. From 36 Whitleys, only nine got to a fully illuminated Turin and two bombed Genoa's Ansaldo Works and docks. One bomber failed to return, which represented Bomber Command's first operational loss against Italy.

However, the French soon requested for Haddock Force to return, which it did on 15 June. They did so because British intelligence had (conveniently) detected that Italy's bomber squadrons had concentrated in Sicily, and would therefore be in no position to conduct reprisal attacks on France. Yet the Wellingtons' indifferent start continued, with only one aircraft from eight able to find the target that night (the Ansaldo Works). The following night was better, with most aircraft locating and bombing either the Breda Works (Sesto San Giovanni), the Caproni factory (Milan) or aerodromes near Genoa. Information received by the British from Italian sources stated the attacks had had a 'stunning' effect on morale, with the population 'exceedingly angry' over the absence of flak and fighter defences. But then Haddock Force's efforts were soon curtailed: on 17 June it ceased to exist, as the Wellingtons flew back to Britain with news of France's request to surrender. Basing British bombers in south-eastern France had been a good idea – especially given the limitations of British bombers at this time – but Haddock Force could only ever last as long as France itself did.

Thereafter, a succession of Directives – on 20 June and 4, 14 and 30 July – stressed the need for Bomber Command to help with reducing the air attack on Britain by bombing German aircraft and oil industries and Luftwaffe airfields in northern France and Holland (alongside the invasion barges collecting at the French Channel ports). Operations against Italy restarted in mid-August, once the hours of darkness had increased. These, in the words of the AOC 4 Group, Air Vice-Marshal Arthur Coningham, would make 'the Italian ... feel an unforgettable distaste for his August sun and weather' and help relieve 'the coming [Italian] pressure on Egypt'. Air Vice-Marshal John Baldwin, the AOC 3 Group, had offered Wellingtons in order to resume the group's Italian role, but was 'beaten at the post' by Coningham's offer of 70 Whitleys, which could carry a bombload of four 500lb and ten 250lb HE bombs, and 120 4lb incendiaries. Baldwin's 'ace card' should have been the Stirling, then being delivered to his squadrons, but teething troubles with the type persisted, which included heavy fuel consumption after the engine mixture had been enriched to maintain speed above 10,000ft, and its other problems soon became apparent after it became operational in February 1941. The seven attacks during August–September 1940 would all be undertaken by 4 Group, which had sole responsibility for Italian operations at this stage, but 3 Group's time for bombing Italy soon came again.

This need to recommence attacks on Italy, as Douglas told Portal, was for a mixture of morale and wider strategic reasons. After 10 August, the British were planning important naval operations in the central Mediterranean, and bombing northern Italy would help draw off some of Italy's fighters from the south. The subsequent raids continued sporadically over the next five months, until they were curtailed in mid-January 1941. Thirty-six Whitleys attacked a multitude of targets on 13/14 August: Fiat's aero-engine plant, the Caproni airframe factory at Taliedo (near Milan), rail junctions south of Turin, a blast furnace in Turin, Milan's marshalling yards, and a bridge north-east of Milan. Though a 'pin-prick' effort, crews did report fires, explosions and blue flashes around the targets, especially at the two aircraft industry sites. This was enough to bring Sinclair's congratulations on both 'the skill and endurance of the pilots' and 'thoroughness' of HQ Bomber Command's planning. Raids on 15/16, 18/19, 24/25, 26/27 and 27/28 August saw only modest numbers sent to Italy. On 24/25 August, the focus was on the aircraft component plant at Sesto San Giovanni



Air Vice-Marshal Arthur 'Mary' Coningham, AOC-in-C 4 Group from 3 July 1939 to 26 July 1941. Coningham's group would spearhead Bomber Command's early effort against Italy in 1940. Transferred to North Africa in mid-1941, he became an exponent of the use of tactical airpower. Australian by birth, Coningham died when the *Star Tiger* civilian airline vanished in the Bermuda Triangle in January 1948. (Getty Images)

and the Savoia-Marchetti airframe factory at Sesto Calende (south-west of Varese). The Air Ministry's Directorate of Bomber Operations rated the latter as 'equivalent in psychological value to Krupps [of Essen]', though they were soon alarmed to discover the target map had located a church at the centre of the target. The aircraft factory was found to be west of the basilica, and the senior airmen wanted a new map produced immediately on the grounds that should the existing one fall into Italian hands then it represented 'great propaganda value to the enemy'. The final attacks of August saw the aircraft factories at Sesto San Giovanni and Turin once again targeted, but the strain of these long-distance trips was already showing as a number of crews turned back owing to engine problems. Three raids were made, on 1/2, 2/3 and 5/6 September, all against the usual factories in Turin, Milan and Sesto San Giovanni, and also transportation targets, which included Turin's marshalling yards, a railway bridge over the Po, and Genoa's main railway station, together with Genoa's main power station. Two Whitleys attacked this on 2/3 September, and their bombs caused a great explosion that left a deep-red glow. Aircraft bombing Fiat's aircraft factory three nights later were able to cross the target at low level, and dropped their bombs smack

on a factory building, causing a 'huge yellow explosion and thick columns of smoke'. Clearly the locating and bombing of precise industrial targets in Italy was easier than attacking such sites in Germany, owing to the negligible Italian air defences at this time.

Yet after 6 September, Italian operations were paused for the next six weeks because the British government, believing invasion possible, had ordered Bomber Command to focus on French ports. But when this threat lessened, the Air Ministry instructed Bomber Command on 6 October to resume its attacks on northern Italy. Two weeks later, six Whitleys attacked seven targets comprising the Nazionale blast furnace (Aosta), the R.I.V. ball-bearing works (Turin), the Pirelli factory (Sesto San Giovanni), a crossroads (San Maurizio), Savona's waterfront and two factories near Bergamo. The bombing programme soon expanded, both in its frequency and numbers of aircraft involved, when on 28 October Mussolini attacked Greece, causing the British government to rule 'it is now more than ever important to carry the offensive into Northern Italy' so as to help Britain's only ally in the Mediterranean. 4 Group was no longer restricted to mounting attacks by up to 20 aircraft but could deploy all its available bombers; meanwhile, Hampdens from 5 Group (then under Harris' command) had also been earmarked to attack Italy (but never did). Bomber Command also sent a number of Wellingtons (from 37 and 38 Squadrons) to Malta to operate against the southern ports of Naples and Taranto, *en route* to their final deployment in the Middle East, though Axis bombing of the island's airfields curtailed this in March 1941. Nonetheless, the precedent of Bomber Command units – 40 and 104 Squadrons in October 1941, 142 and 150 Squadrons in December 1942, and the Canadian 420, 424 and 425 Squadrons temporarily in June 1943 – being detached to operate under RAF authority in the Mediterranean had been set, much to Harris' chagrin.

Behind this escalating bombing effort against Italy was the Prime Minister. In a badgering mood, on 30 October he had asked Sinclair why the bombing of Italy from the UK had remained so limited. Sinclair replied that the great distances meant only Whitleys could undertake these operations 'with a fair bomb load', yet 4 Group remained the smallest bomber group of all. The Alps, moreover, remained 'impassable' in icy conditions. Targets also remained restricted to Turin and Milan because the need to respect Swiss airspace meant other places could not be reached until extra fuel tanks were fitted, all of which meant somewhere like Genoa remained out of the Whitley's reach. The Whitley was soon removed from the Italian assignment owing to a shortage caused by the type's high losses

on operations to Germany and the sluggish production of replacements. Consequently, the attacks on Italy during December were by 3 Group's Wellingtons, which bombed Turin on 4/5 December; the Pirelli Works (Milan), Genoa's docks and the railway line between Novara and Lake Orta on 18/19 December; and the oil refinery at Porto Marghera (near Venice) on 21/22 December. Bomber Command's first air campaign against Italy was concluded by the raids on 11/12 and 12/13 January 1941. The first night saw 16 Wellingtons attack the Royal Arsenal and ball-bearing plant in Turin, with many aircrews seeing little compliance with the blackout as full street lighting and illumination was observed over many towns and marshalling yards. Italy seemed a nation unadjusted to the demands of being at war, which meant Italy's air defences (at least until late 1942) continued to remain chronically ineffective. The following night saw a 'wild' low-level operation by 149 Squadron Wellingtons against the oil installations at Porto Marghera, but it was also notable for the machine-gunning of 'targets of opportunity' – liners, trains, airfields and flak batteries. This attack had been undertaken, HQ Bomber Command stated, 'for moral[e] rather than material effect' because it coincided with Italian defeats in Libya. Already Mussolini's 'parallel war' was becoming a first-class disaster, though German intervention in the Mediterranean allowed Fascist Italy to keep fighting for another two and a half years. Yet in so doing, Italy's cities would become exposed to tremendous bombing from October 1942 onwards – attacks whose scale was in a wholly different league when compared with the 'pinprick' operations of 1940/41.

Overall, Bomber Command's first campaign against Italy had comprised 20 small-scale attacks in 1940 and two in January 1941. In the same period, targets in southern Italy –

Wellingtons over Venice, 12/13 January 1941

Eyewitness accounts that describe Bomber Command's operations to Italy often speak of the long duration (some 9 hours) of the trip, and a boredom that was only punctuated by the joy in seeing the snow-covered Alpine peaks and the short-lived drama of bombing the target. Yet the earlier attacks on Italy, in 1940 and 1941, often proved to be much more wild adventures. Individual aircraft selected their own way of getting to the target and, once there, they would not just drop their bombload but often engaged in 'further activities', such as the low-level shooting-up of flak positions, airfields, road convoys, moving trains or – in this case – ocean liners. In early December 1940, 4 Group had been taken off Italian operations owing to the need to conserve its Whitley Mk Vs for large fire-raising operations against German cities, and the 'Italy assignment' was transferred to 3 Group, which operated the Vickers Wellington Mk Ic. The operational instructions issued by HQ Bomber Command stated they were to attack Italian targets, but only with a maximum number of 15 aircraft; they were given a fixed list of German targets from which to choose alternatives if weather precluded attack upon Italian objectives, but clearly the latter was the priority. On 4 December, 3 Group undertook its first Italian operation, when 15 aircraft were detailed to bomb the Royal Arsenal in Turin, and Wellingtons were also sent to Italy on 18 and 21 December, and on 11/12 January 1941. The following night, seven Wellingtons were ordered to attack the oil refineries at Porto Marghera, near Venice, and the progress of this operation is depicted in this battlescene. The bombers scored direct hits on the target area: one 1,000lb bomb dropped from 700ft scored a direct hit on large buildings at the oil refinery, causing a massive explosion with reddish/white smoke and flames to 400ft, whilst further bombs caused oil storage tanks to explode and a large building to collapse and disintegrate. Fifteen minutes into the attack, the target area was described by aircrews as being a mass of flames. Yet 3 Group's aircraft had not travelled that far (a round trip of 1,500 miles) just to drop their modest bombloads (at that range about 1,500lb). With little chance of being intercepted – in early 1941 the Regia Aeronautica had yet to train for the night-fighter role – the Wellingtons used their machine guns to strafe the oil refinery and flak positions. Two aircraft got down very low – to about 300ft and 390ft respectively – to attack the Italian liners *Rex* and *Conte di Savoia*, which were being used as troop ships to North Africa. The raid report stated that another Wellington on its return journey attacked Padua aerodrome from an incredible 20ft. Such activity encapsulates the brave – if at times reckless – endeavour of the early bomber attacks on Italy. Operations did become a lot more organised, more controlled and, ultimately, more devastating from autumn 1942 onwards, though a final 'wild ride' would be the daylight operation to Milan by 5 Group's Lancasters on 24 October 1942, which culminated in some low-level flying and strafing by machine guns (see Battlescene 2). As for the two Italian liners, the next time the *Rex* was attacked by the RAF, in conjunction with Beaufighters of the South African Air Force, was on 8 September 1944 and the ship would be sunk near Trieste. The *Conte di Savoia* was scuttled in Venice by German forces on 11 September 1943, but was raised and then scrapped in 1945.



GRAHAM TURNER



Naples, Taranto, Brindisi, Messina and Catania – had been raided 95 times by groups of bombers temporarily based in Malta. Although small, these attacks had been undertaken to attack key sectors of Italy's war economy. In this regard, the campaign against Italy mirrored that against Germany, in which attacks on specific industrial targets seen during the early years later give way to the area bombing of cities.

The 'pause' of 1941

For nearly the first nine months of 1941, Bomber Command did not send a single bomber to Italy. This was because Peirse had received a Directive on 15 January that stated 'the sole' aim was Germany's synthetic oil industry. If weather precluded bombing this, then the next priorities were morale in the industrial cities, followed by invasion ports and naval targets. Subsequent Directives throughout this year told Bomber Command to help with the Battle of the Atlantic by bombing naval targets, which included centres of U-boat and Fw 200 production, or to attack Germany directly, especially its transportation and/or Berlin. Against northern Italy, Peirse could still propose an occasional attack, but each request had to be considered by the CAS, who viewed it in relation to the general strategic picture and bombing priorities at the time. Italian operations therefore remained on an *ad hoc* basis, and amidst the Air Ministry's numerous instructions they tumbled out of the picture entirely. Italy had done so because many senior airmen endorsed Trenchard's view that:

It may be argued that Italy is the weak point, but this would be false, as nothing that we can do to Italy will win the war for us... If, however, our bombs are dropped in Germany, then 99 per cent which miss the military target all help to kill, damage, frighten or interfere with Germans in Germany.

Moreover, when it did come to bombing Italy, others preferred to attack the south, rather than the north, because this had a direct impact on Italy's war in the Mediterranean. On 5 February, an unidentified senior airman wrote that 'a severe blow from the air is required in Italy', which should be aimed at Naples because it 'is probably the most inflammable city in Italy' owing to narrow streets, 'rickety' wooden houses and poor fire-fighting services. The effect on Italy's war and morale, it was concluded, 'would be tremendous'.

For Bomber Command, the omens for recommencing the bombing of Italy therefore did not seem good at this time. In late August, Peirse asked whether Italian operations could become a permanent commitment, undertaken whenever weather conditions were unfavourable for attacks on Germany or enemy-occupied North-West Europe, but the Air Staff turned this down; attacks on Italy had to remain *ad hoc* arrangements. Also turned down was the bombing of Rome. Considered the previous October as a measure to bolster Greek resistance, the nature of the target, with its antiquarian, cultural and artistic buildings, public monuments, and religious sites of the Vatican and St Peter's Basilica, made the Italian capital a very sensitive target. Bombing Rome was not a straightforward military issue, but something that embraced important political calculations concerning Britain's international reputation. Consequently, the Air Staff deferred to the Foreign Office's view, which in late 1940 was largely negative about the idea. Yet Churchill (and Sinclair) soon came to favour attacking Rome in response to some kind of Axis bombing 'excess' in the Mediterranean. Indeed, on 24 February 1941 news that the Italians had bombed the Church of San Sofia in Salonika reopened the question. In response, Churchill stated the Italians should 'have a good dose where it will hurt them most', which meant bombing the seat of the Fascist government at the Palazzo Venezia and the nearby city centre. The Prime Minister then asked Peirse how this could be done by aircraft based in the UK. The only option was a 'shuttle' operation to Malta, came the reply, with Rome being attacked on both the outbound and inbound journeys. Bomber Command's

only aircraft capable of doing so, Peirse continued, was the Stirling; the early version of the Halifax was debarred by its range, whilst the Avro Manchester was a danger to its crews. But he remained worried at 'the serious vulnerability' of the Stirlings to enemy air attack whilst stopping in Malta, and the type's 'host of minor ailments' meant a laborious need to stockpile spares and special equipment on the island. As a result, Peirse preferred Wellingtons based in Malta to undertake the bombing of Rome. This view was supported by senior members of the Air Staff, including Portal and the DCAS, who at this time was none other than Arthur Harris. In a typically strident comment, he also rejected this operation, describing it as 'a most uneconomical luxury which one can only hope will not be forced upon us by circumstances'. Bombing Rome in 1941 was not a practicable proposition and, notwithstanding the political objections, was something that could only be seriously considered when Bomber Command's capabilities had improved or when heavy bombers had become based in the Mediterranean. Until that time, the operation remained off the table.

Nonetheless, Peirse was given permission by the Air Ministry for a 'one-off' raid against Italy during the full moon period. On 10/11 September, he therefore despatched 76 aircraft to Turin – comprising 56 Wellingtons, 13 Stirlings and seven Halifaxes – the first 'proper' bombing raid on Italy given the larger number of aircraft involved. For the Stirling and Halifax, this was their operational debut against Italy, and this attack was also notable for its disparate number of aiming-points:

- 1 Group (Wellingtons) – marshalling yard
- 3 Group (Wellingtons) – Royal Arsenal
- 3 Group (Stirlings) – main railway station
- 3 Group (Wellingtons) – city centre
- 4 Group (Halifaxes) – main railway station
- 4 Group (Wellingtons) – main railway station

The first waves found no cloud over Turin – though there was some ground-haze which often shrouded this industrial city – and they identified the River Po running along the



View of the instrument panel and controls in the cockpit of a Short Stirling Mark I of No 7 Squadron RAF at Oakington, Cambridgeshire, February 1942. This bomber type, being bigger, was much roomier than other British aircraft, especially the Lancaster. The flak shell which hit Flt Sgt R. Middleton's aircraft came through the floor in the centre of the picture, causing dreadful injuries to both the pilot and second pilot, Flt Sgt L. Hyder, whilst over the Fiat Works in Turin on the 28/29 November 1942. (Getty Images)

city's eastern side that assisted locating the specific targets. But later waves found their specific aiming points obscured by smoke from burning incendiaries and difficult to identify. Latecomers nonetheless reported raging infernos at the main post office⁷ and Royal Arsenal, and explosions throwing debris up to great heights. But generally the results were considered disappointing because many bombs had fallen in the city's southern suburbs or on the surrounding countryside.

Meanwhile, the Director of Bomber Operations, Air Commodore John Baker, minuted that this operation was indicative of 'no intention at the moment of resuming any regular attacks on Northern Italy'. Yet a week later, the Air Ministry decided Peirse should bomb Italy again. For in discussion of the Turin operation, the Director of Plans, Gp Capt. William Dickson, had stated the war in North Africa, coupled with the sailing from Gibraltar of a resupply convoy to Malta (Operation *Halberd*), meant it had become important to attack Genoa. By so doing, Bomber Command might worsen Axis shipping problems and also provide cover for the convoy by drawing some Italian aircraft away from Sicily. The naval commander, Vice-Admiral Sir James Somerville, therefore wanted Genoa attacked on 26/27 and 28/29 September. Not all airmen agreed with helping the navy. Bottomley told Portal that Genoa was a long way – from 4 Group's bases it was 150 miles further than Berlin – whilst 'weather conditions generally are too uncertain ... to warrant our planning [coordinated] operations of this nature'. But Portal, who was also a member of the COS Committee, sometimes had to go beyond the RAF's interests, and ultimately the CAS wanted Genoa attacked to maintain inter-service cooperation.

Consequently, on 26/27 September, Genoa was the target for 34 Wellingtons from 3 Group. Yet fog around the bases forced all aircraft to be recalled, except for one crew from 311 (Polish) Squadron, who either did not receive the order or were determined to show 'a press-on spirit'. On their own they continued to Italy and dropped their bombload on Genoa's main railway station. Two nights later, 39 Wellingtons and two Stirlings made a further attempt, but cloud and ground-haze made identification of the aiming points difficult, and most bombs fell on the outskirts or in the hills behind Genoa. Yet British intelligence received information from neutral seamen, who had moved to on-shore air raid shelters, that although material damage was miniscule, the raid had shown civilian morale to be 'painful'. The downside for the British in attacking Genoa was the violation of Swiss airspace, leading this time to strong protests. Eden informed the War Cabinet on 6 October that this threatened to severely deteriorate relations between London and Geneva.

Meanwhile, autumn 1941 saw changes at Bomber Command. An operation to Berlin on 7/8 November saw Peirse gamble with the weather and then preside over a debacle that comprised 12.4 per cent losses. Within a week, Peirse had received a ruling from the War Cabinet on the need to conserve resources so a stronger bombing offensive could be made in spring 1942, and hence no undue risks should be taken with the weather. The net effect was that Bomber Command was kept away from Germany and Italy during winter 1941/42. This episode also precipitated the end of Peirse as C-in-C Bomber Command. His permanent replacement would be a fervent 'Bomber Baron', committed to defeating Germany by bombing its cities, war industries and civilian morale, namely Air Chief Marshal Sir Arthur Harris. Determined to do just this, no operations would be conducted against Italy during the first eight months of Harris' tenure as head of Bomber Command.

The only exception was in April 1942. Earlier that month Sinclair had told Churchill about the need to 'resist to the utmost' any diversions away from bombing Germany.

7 The Ministry of Economic Warfare (MEW) noted cynically that 'the destruction of the paying-out offices of the savings bank would have a depressing effect on depositors!'

The Prime Minister was less convinced, however, and asked Portal whether northern Italy could now be bombed. The CAS replied that until Malta could be used, this could only be done by drawing effort away from Germany, which, the CAS argued, should not be entertained. Yet should 'you think that we should not leave Italy entirely alone', Portal added, then a raid could be made in suitable weather conditions. Churchill did think so, and on 12/13 April Bomber Command launched a small-scale attack on Genoa by 18 Whitleys, the type undertaking its last Italian operation. But Genoa was covered by thick cloud and only six Whitleys attacked the port city, with 12 others bombing either Turin or Milan.

Thereafter, the lengthening hours of daylight meant Bomber Command conducted no other Italian operations until late October 1942. Yet by September the possibility of having to do so was being examined by the Air Staff, who were investigating whether the important railway junctions at Bologna and Verona should be attacked. Over these two targets, they were sceptical because railway targets needed a sustained level of heavy attack to destroy completely, which was difficult to achieve given the long-standing problems for Italian operations of range and bombload. From Mildenhall in Suffolk to Bologna and Verona was 730 miles and 670 miles respectively, and such distances automatically meant carrying a light bombload, which would be largely ineffective against railway junctions. There was also little prospect of repeated attacks on Bologna and Verona, as Portal had no wish to see them become permanent commitments. Instead, Turin, Milan and Genoa remained the most favourable targets because a high level of damage could be achieved by even a moderate scale of attack. Yet partly because Italian targets threatened to emerge as a priority for the bombing offensive over the forthcoming winter, Harris informed his Group commanders that the pressure on Germany should be maintained through bombing its smaller towns in remote areas; based on this plan, Italy would not feature in Harris' calculations at all. Yet Churchill and the COS had other ideas, and the C-in-C Bomber Command, it must be remembered, was ultimately an executor of policy, not a maker. Harris could, and did, let off steam, specifically complaining about Operation *Torch*:

We can be doubly sure that once the pressure of real events makes itself felt, as the Certain Operation [*Torch*] progresses, and still more so if it does not progress, our chances of maintaining the direct offensive against Germany will be even less.

But ultimately such complaints carried little weight, ignored by the higher overlords of Britain's wartime strategy, of which Churchill, eager to fight Italy in the Mediterranean during 1942/43, was very much the central director at this time. Regardless of his scepticism, within a month Harris had been told to unleash a bombing campaign against Italy of considerable intensity.

Bomber Command's second campaign, October–November 1942: supporting military operations in North Africa

On 16 October, the Prime Minister had issued instructions, passed by the Air Ministry to HQ Bomber Command (and the US Eighth Air Force), which stated large-scale air attacks would commence during Operation *Torch*'s opening phase. Churchill emphasised these were designed to keep Luftwaffe units away from the North African landing grounds, rather than being particularly focused on collapsing Italian morale. Set to commence on 1 November, and lasting for about a month, it was stated that 'the exact period will depend on the situation at the time'. This was a loose term that in fact allowed the air offensive to be brought forward because commanders in the Mediterranean felt Bomber Command's support was needed as much for Montgomery's El Alamein offensive as it was for the *Torch*

The return of a 106 Squadron Lancaster crew from the opening raid of the autumn 1942 bombing offensive against Italy, namely Genoa on 22/23 October. The morning light shows this to be about 0700hrs, having taken off some 9½ hours before. Fourth from the right is Australian Plt Off. David Shannon, a future Dambuster with 617 Squadron in May 1943. (Getty Images)



landings. Given this order had originated from Churchill meant Harris' usual method of circumventing disagreement with the Air Staff, namely going straight to the Prime Minister, was not available. Or was it? Behind the scenes, a 'deal' may have been struck between the two, in which Harris agreed to bomb Italy in exchange for the Prime Minister's full support for Bomber Command receiving all the resources it needed for devastating Germany in 1943. Certainly this may explain why Harris went on to make 15 attacks on Italy during late 1942 with surprisingly little protest or complaint.

Bomber Command's second campaign against Italy started from late October 1942. Lasting nearly three months, it comprised 1,809 sorties, with 2,786 tons of bombs being dropped, for the loss of 36 bombers (1.99 per cent). Not surprisingly, the need to stop reinforcements and supplies from reaching the Axis armies in North Africa meant the initial focus was on the port of Genoa, bombed six times between 22/23 October and 15/16 November. These attacks covered both the duration of the battle of El Alamein, which began on 23 October and lasted until 11 November, and the period of the *Torch* landings from 8 to 16 November.

The opening attack on 22/23 October involved 101 Lancasters of 5 Group, with 11 PFF Lancasters guiding the way. The aiming point was to be illuminated by eight PFF Lancasters using sticks of flares at three-second intervals from 2113 (zero hour) to 2118, by which time the main force had commenced its bombing from different heights. The attack was therefore compressed into just 15 minutes. The force endured poor conditions *en route*, with thick cloud encountered north of the Alps, but navigation was assisted by the new Southern Gee Chain, used operationally for the first time. As often happened, thick cloud quickly diminished south of the Alps, with the target being completely clear. This, combined with near perfect moonlight, allowed the target-marking to be accurate, and 100 Lancasters (12 had aborted) then accurately bombed the target area, dropping 87.9 tons of HE and 89.2 tons of incendiaries. Night photographs showed concentrated bursts around the aiming point, and large fires – one pilot described it as 'a miniature Cologne' – in the city centre, harbour, eastern docks and Ansaldo fitting-out yards, in total some 70 acres being devastated. But Genoa sprawled along the coastline, which meant little damage was

inflicted on the western part of the city that contained the main Ansaldo Works and further large dockyards. These key targets would need to be attacked on another occasion, with the aiming point(s) located over them. Whilst Italian air defences were weak and caused Bomber Command no losses, one Lancaster crash-landed due to fuel shortage. The attack had been 'easy', but the only loss showed how fuel consumption remained marginal on these long-distance operations.

Harris followed up with a further attack on Genoa the following night, despatching 3 Group's Stirlings, 4 Group's Halifaxes and 13 PFF Stirlings; a total force of 122 aircraft. Given the need to bomb other parts of Genoa, Harris chose two different aiming points, namely the old city centre for 3 Group and railway junction near the Ansaldo Works for 4 Group. Such tasks affected the bombloads carried, with the Stirlings carrying a high proportion of incendiaries to set the built-up area ablaze, whereas the Halifaxes carried HE bombs for blasting the railway tracks and surrounding factory buildings. Though thick cloud dispersed south of the Alps, the only place where this did not happen was Genoa itself, covered by a cloud bank down to 5,000ft. Poor visibility therefore made identification of the aiming points extremely difficult. Few crews found the primary objective, and instead dropped their bombs on Savona, a port some 30 miles along the coast. Three aircraft failed to return – victims of Luftwaffe night-fighters based in France – but a number of casualties were once again caused by fuel starvation, and also by accidents. Indeed, poor weather on landing saw two Halifaxes collide on the runway at Holme-on-Spalding in Yorkshire.

Daylight over Milan, 24 October 1942

After attacks on Genoa on 22/23 and 23/24 October, which were designed to coincide with Montgomery's El Alamein offensive, Harris at the morning conference at HQ Bomber Command on 24 October decided to switch targets to Milan. Unlike Genoa, with its ports and shipyards, or Turin, with its war industries, the attack on Milan – the political and commercial centre of northern Italy – was for morale purposes and the effect on the civilian population. As a result, this attack was unusual in not being one single night raid. Instead, Harris chose to split the attack: 5 Group's Lancasters by day – perhaps to highlight British air superiority over a major Italian city – and the other Groups' 'heavies' at night. This battlescene features the daylight attack, which saw 88 Lancasters take off to bomb the aiming point of 'Milan "A"' – the city centre – though this caused controversy afterwards when it became public that the Duomo had been the aiming point (see text). Seventy-four aircraft dropped 51.8 tons of HE bombs and 81.5 tons of incendiaries on Milan. As cloud over Milan was down to 3,000ft, and since the bombs dropped included a good number of 4,000-pounders, release from below this height was in some cases avoided so a number of Lancasters stayed above the cloud, bombing at between 8,000ft and 12,000ft. A number went below the cloud and down to 2,000ft to identify the aiming point, however, and this is depicted in this battlescene. One Lancaster even got down to 50ft, where, the Italian authorities claimed, it strafed buildings and machine-gunned people in the streets; indeed, the Lancaster of Wg Cdr J. M. Southwell, 9 Squadron's CO, admitted later to having 'used 7,000 rounds machine-gunning two trains on the Milan–Novara railway and strafing what he said was Novara'. Nonetheless, photographic evidence – taken both during the bombing and later on by a reconnaissance aircraft – revealed that a large amount of damage was inflicted – mainly by fire – on industrial premises all over Milan, and the railway lines to Bologna, Genoa and Venice and along the St Gothard route had been severed. The main railway station had been particularly damaged, as were areas around the Porto Novara Station and the Parco Solari and many industrial premises, such as the GEC Engineering Works, Municipal Tramways and the Caproni aircraft factory. Mussolini publicly admitted damage to nearly 2,500 houses, with 450 completely demolished. For the British, the losses were three Lancasters (3.4 per cent), one having crashed over Milan and two others shot down by Luftwaffe night-fighters around Caen in France. These were light considering this had been a risky long-distance run in daylight across Axis-dominated Europe. Damage to aircraft was another matter, however. Several bombers had been damaged either by flak over Milan or *en route*, by colliding with a seagull over the target, by a Macchi C.202 Folgore, by hitting high-tension electric cables, or by crash-landing at an emergency airfield in Sussex. A total of ten aircraft (11.45 per cent) were damaged, half of them seriously.

While the day raiders were landing at their bases in England, another force of 71 aircraft, comprising the Stirlings, Halifaxes and Wellingtons from the PFF, 1, 3 and 4 Groups, was already over Milan. Although thick cloud covered the target, they could see the glow of the fires started by the Lancasters five hours earlier, and proceeded to bomb those. Further destruction to Milan, although not extensive, was caused.





GRAHAM TURNER



The daylight attack on Milan on 24 October 1942 by 5 Group's Lancasters. This photograph shows the raid taking place over the built-up area, in which a number of bomb blasts, fires and smoke plumes can be clearly seen. Milan would suffer considerable devastation from Bomber Command's major attacks in February and August 1943. (IWM C 3207)

On 24 October, Harris sent 5 Group on a daylight raid to Milan, a 1,700-mile round-trip across enemy territory. Switching from Genoa, the navy's preferred target, to Milan was done for morale reasons. Ground sources had informed British intelligence the heavy attacks on Genoa had caused a wave of civilian panic that had now spread to Milan, which saw 1 million inhabitants packed into northern Italy's political and commercial centre. Milan also contained crucial war industries and a railway junction vital for troops and supplies being sent from Germany to North Africa. Eighty-eight Lancasters therefore took off to bomb Milan. Escorted by 48 Spitfires VBs across the Channel, the bombers navigated individually to Lake Annecy in south-east France, where loose formations formed up for the flight across the Alps to the target. But some of these gaggles left the Annecy area too early, meaning the raid spread to half an hour instead of being only ten minutes' duration. Consequently there were no large areas of devastation caused to Milan, and the many bomb bursts, fires and plumes of smoke – caught on camera by aircrews – were scattered throughout

the city. Nevertheless, Harris was jubilant and sent a message to the then commanding officer of 5 Group, Air Vice-Marshal W.A. Coryton, stating: 'Well Done 5 Group. Shades of Hannibal! A Magnificent Show.' This was sent because the operation, mounted in daylight, had been designed to shake the Italians, with many crews dropping their bombs from very low level and machine-gunning the streets, which only added to the impact on morale by revealing the total inadequacy of Italy's air defences. Civilians had been terrified by a short, sharp, violent attack, with a high proportion of incendiaries being dropped, and the city authorities would record the population as being despondent and openly saying Milan was encircled by a 'ring of fires'.

Fire was used elsewhere, too. The small town of Vigevano – a place of historical, cultural and artistic exquisiteness some 15 miles south-west of Milan – was the alternative target. Was the bombing of Vigevano intended to be a 'terror raid' using incendiaries? The day information sheet indicated 12 Lancasters had been assigned this target, with ten then being recorded as having been cancelled. But this record might simply be wrong, for the author can find no additional evidence to confirm whether an incendiary attack on a small Italian town had been specifically ordered on this night. Yet the fact remains that a Lancaster from 49 Squadron did bomb Vigevano, which interestingly carried a bombload comprising just 112 packs of 30lb incendiaries (1.5 tons total weight). Dropped on the town centre, a building was observed as erupting in a host of blue flashes, smoke and flames.

As the daytime raiders recrossed the Alps, back in Britain 71 bombers began taking off for the night-time phase of the Milan operation, designed to increase the terror on an already panicking city. So keen was Harris on launching this follow-up raid that he gambled on the weather, with very strong altitude winds meaning crews were advised to fly both journeys across France under 3,000ft, climbing twice to clear the Alps. In the event, cloud was also experienced over the Alps up to 17,000ft, and storms brought some bombers over Switzerland and their 'warning' AA fire. Only 39 aircraft reached Milan, and the plan for illuminating the aiming point (the city centre) was negated by thick cloud cover, one of the few times such conditions were encountered on an Italian operation. Many crews elected to release their bombs on the glow of existing fires still raging in Milan's built-up areas. Italian sources record observations of bombs falling on the city's outskirts, on Monza, and on Sesto Calende, Vercelli and several unidentified towns in Lombardy. Yet the operation was not cheap, with losses of 8.5 per cent (six aircraft) causing HQ Bomber Command to note this as being 'unusually high for a target in Italy'. These were due not to the Regia Aeronautica –

whose biplanes were seen flying around the target area – but to the Luftwaffe's ground-controlled night-fighters based in northern France and Holland. They claimed two Wellingtons from 75 Squadron, two Halifaxes of 103 Squadron (one being the commanding officer, Sqn Ldr S. H. Fox, DFM) and three Wellingtons from 115 and 142 Squadrons. In addition, a Stirling from 218 Squadron set ablaze due to an engine fire, causing the aircraft to break up and crash near Ipswich (engine failures would prove an all-too-common feature of the Stirling's operations to Italy in late 1942).

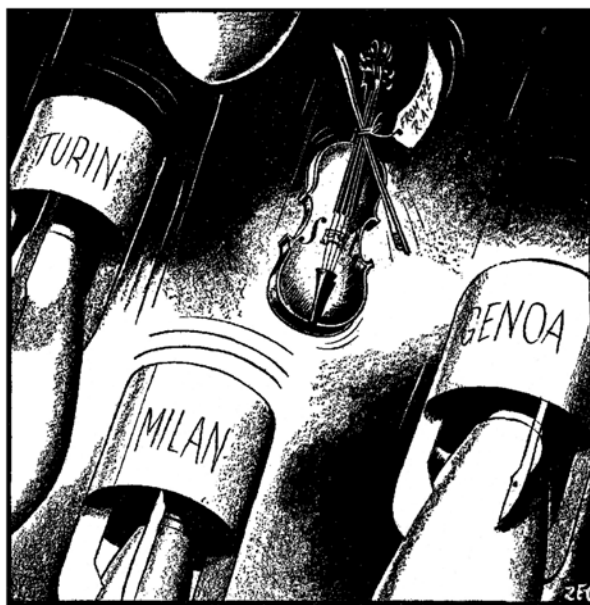
Yet the turn to Milan concerned Britain's naval commanders in the Mediterranean. After Portal had completed a note on air action against Italy during Operation *Torch*, Coningham added 'some additional suggestions' to ensure the focus remained on naval targets, such as minelaying off La Spezia and continued bombing of Genoa. As a result, on 2 November the Air Ministry instructed HQ Bomber Command to continue Italian operations by making them a 'priority over your normal offensive against commitments during next seven days', with the primary targets being those that Coningham had previously advocated.

Harris complied with his instructions, and attacked Genoa four times in ten days. Following a cancelled operation on 5/6 November, the destruction of Genoa began the following night with a moderate-sized attack by 72 Lancasters from 5 and 8 Groups. A high percentage of aircraft bombed the target, dropping near equal amounts of HE bombs and incendiaries at 54 and 59.1 tons respectively. Encountering little opposition – with light flak described as 'being particularly wild', heavy flak remaining inaccurate, and searchlights and night-fighters noted as being non-existent – the bombs were able to be placed accurately and large fires soon engulfed the aiming point, which latecomers saw as marking out the coastal outline of the harbour. Fires would be seen for 80 miles of the return journey, but once again it was the eastern part of Genoa that suffered the most. Accompanying the bombs were 400,000 propaganda leaflets, which specifically highlighted to the Genoese the ineffective state of Italian air defences. The two Lancasters lost, both from 83 Squadron, fell into the sea south of Genoa following a mid-air collision, one being flown by a decorated pilot from Southern Rhodesia, Plt Off. T. G. Hackney DFC. A rotten night for the squadron was compounded by the loss of Plt Off. D. B. Todd, who overshot the runway attempting to land, and going around again the Lancaster stalled during a steep turn and crashed in flames by the airfield.

Harris immediately sent a force to Genoa the following night, comprising 85 Lancasters, 45 Halifaxes, 39 Stirlings and six Wellingtons. A forecast of poor weather brought the attack forward, thus showing Harris' determination to continue the momentum behind attacking Italy. Even then, thick cloud, snow and severe icing were encountered over the Alps, causing some crews to turn back, but the weather cleared up south of the Alps, allowing the aiming points to be identified easily. 3 Group's Stirlings were assigned the Ansaldo shipyards, 36 aircraft to drop mines outside Genoa's harbour, and the rest the city centre. With 112.5 tons of HEs and 125.5 tons of incendiaries dropped on Genoa, crews observed that:

THE DAILY MIRROR

Page 3



"Better start practising, Nero!"

A cartoon in the *Daily Mirror* on the bombing of Italy, published on 26 October 1942 after the dual daytime/night raids on Milan. Depicting a violin alongside bombs with the targets written on them, the caption reads 'Better start practising, Nero!' Was Mussolini 'fiddling' (he was an accomplished violinist) whilst the industrial cities of northern Italy burned? Certainly he and his regime seemed powerless in the face of Bomber Command's heavy attacks in late 1942. (Getty Images)

Part of the dock area was well ablaze after [a] huge explosion and two large explosions were observed in the inner harbour... The whole target was so brilliantly illuminated by flares and fires that buildings could be actually seen to topple ... [and] the glares of the burning city could be seen from the Alps.

This observation was a consequence of a major oil fire erupting in the Porto Nuovo, which soon merged with one engulfing the inner harbour, the burning city centre, and the Stirlings leaving a considerable blaze at the Ansaldo Works. Daylight reconnaissance reported large smoke columns rising from the city, indicating it had been hit hard, and the Italian High Command's communiqué confirmed this by announcing that 'damage is huge'. The attack saw Bomber Command incur 3.4 per cent losses, this time to German flak guns in France and the common problems of fuel starvation and landing accidents – perhaps a deadly consequence of crew fatigue from such long flights – with two 9 Squadron Lancasters colliding on the approach to the airfield. An Italian operation had claimed yet another decorated pilot, with one aircraft being flown by the Canadian Fg Off. K. A. MacKenzie DFC.

The third attack on Genoa on 13/14 November was a smaller operation comprising only nine Stirlings and six Lancasters from the PFF, and 65 Lancasters from 5 Group. Like the previous attacks, there were two aiming points: the first was located between the old city centre and inner harbour and assigned to two-thirds of the main force, carrying a high proportion of incendiaries. The second lay over the Ansaldo Works, which was the target for 20 Lancasters from 61 and 106 Squadrons dropping only 1,000lb HE bombs to cave in the factory roof and blow down the walls. The PFF's flares lit up the target area, and a concentrated attack on the town, dock and harbour areas was achieved. Their illumination also allowed the Ansaldo Works to be identified, but the bombs dropped were all near misses and the site suffered little damage. Two nights later, Harris aimed to finish off Genoa by launching a 'maximum effort', with 'all aircraft' ordered to operate. But fog and mist closed in around 1 and 3 Group's bases, and numbers were restricted to 78 aircraft from 4, 5 and 8 Groups. The bombload of 75.2 tons of conventional bombs (including eight 4,000-pounders) and 29.4 tons of incendiaries showed the overwhelming emphasis this time on 'blasting' Genoa's docks. Plumes of smoke rising to 5,000ft, belching from the harbour's oil storage tanks, were observed. Damage was considerable because the PFF's illumination of the target had been so good – the raid report noted 'a cinematograph film exposed during the early stages of the attack [had] recorded the entire ground plan of the old town' – allowing most bombs to be placed visually near the aiming point. The very clear conditions had also allowed crews to observe a number of single- and twin-engine Italian night-fighters (one even had its red/green navigation lights on), but none would attack. The performance of the Regia Aeronautica in defending this target, so vital for the Axis war effort in North Africa, had been lamentable, with Bomber Command suffering no losses on either of its last two operations.

By mid-November 1942, photographic reconnaissance showed Genoa had suffered grievous damage to its city centre, harbour and shipping. Dockside warehouses and sheds had been gutted, which included 2 acres around the Molo Vecchio. Damage had been inflicted on the Ansaldo fitting-out yards, with hits being scored on two 30,000-ton liners, *Augustus* and *Roma*, the latter in the process of being converted to an aircraft carrier. Elsewhere, Ansaldo's armament plants at Rivarolo and Sampierdarena had suffered considerable destruction. Italian press coverage made no attempt to conceal the scale of the damage inflicted or the utter chaos in the city. Consequently, apart from the small-scale raid on 7/8 August 1943, Bomber Command's heavy attacks on Genoa ceased on 16 November. Harris had loyally followed his instructions to support military operations in North Africa by attacking this target. But from mid-November, the C-in-C showed his belief that if Italian targets were to be bombed at all, then Italy's industrial cities had to be attacked, starting with Turin, whose destruction fulfilled the Air Staff's long-standing aim of breaking Italy's war economy and

civilian morale. By bombing this target, Harris would lessen the navy's influence over Italian targets, and he embarked on doing precisely this during the final weeks of 1942. Nonetheless, the Admiralty's influence was not shaken off completely, and in early 1943 they pushed strongly for attacks on another naval target in Italy, namely the Italian battlefleet's main base at La Spezia.

Controversy: Milan and Genoa

Whilst the focus had shifted to Turin, Bomber Command's attacks on Italy had given rise to controversy. With regards to Milan, the trouble began when an Intelligence Officer called Sqn Ldr Sebastian Comper, who briefed crews on their aiming points and distributed target maps, felt compelled 'to stop the bombing of precious old buildings, whether by accident or design' because Comper was a trained architect who 'knew and loved ancient Italian buildings'. Breaching the Official Secrets Act (1939),⁸ he told a friend in Combined Operations:

[Although] the bombing of Turin is [of] no historical significance; the same cannot be said of Genoa or Milan, but in both these cases there is military necessity. But does the War Cabinet know that the aiming point is now usually given as the 'city centre' and that we are being issued with mosaics of Florence and Venice? The other day when we were ordered to do a daylight [raid] over Milan, I was horrified to see that the actual aiming point was the cathedral!

He was especially alarmed at the prospect of bombing Florence, being considered at the time, because this would bring Britain 'the everlasting enmity of the Italians' and show 'we are little better than the Hun'. Observing that Churchill had 'artistic appreciation', Comper believed the problem lay with the 'professional R.A.F. chiefs [who] have had such a specialised education that they just don't realise what they are risking'. He soon raised the matter with Sir Hugh Molson, a Conservative MP, who in turn wrote to Sinclair. The Secretary of State for Air approached Churchill, who gave the assurance that 'our bombing was carefully supervised to avoid vital damage', especially to Italian cities.

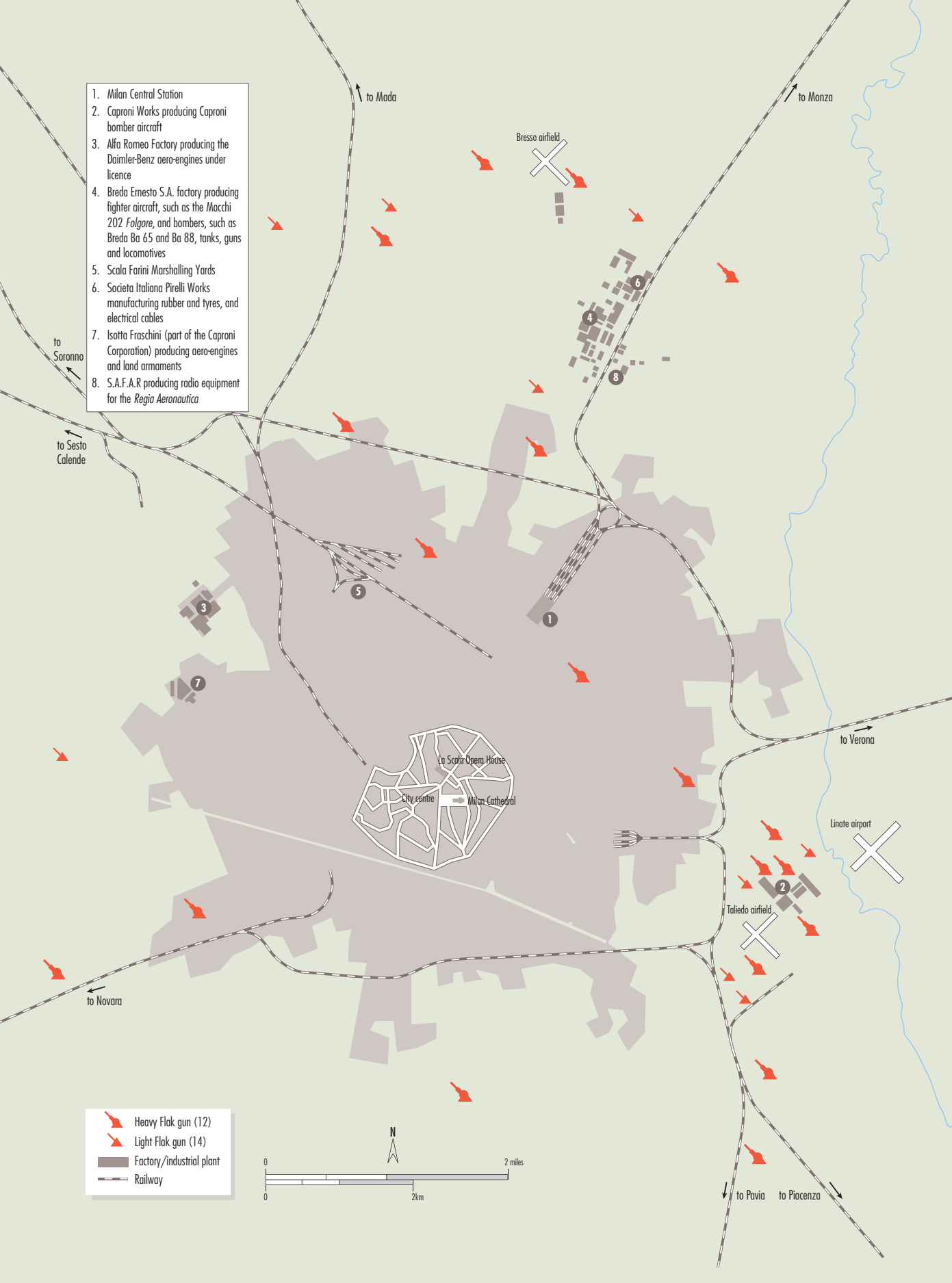
Yet such criticism would precipitate a discussion in the Air Ministry about the implications of using the technique of area bombing against Italy. The Duomo had been chosen, Bottomley told Air Vice-Marshal Charles Medhurst on 26 November, because for most of its major attacks Bomber Command was never given aiming points that were obvious military targets. This, the ACAS(Ops) continued, was because

our aim is normally to achieve the maximum destruction by fire of the built-up areas of cities. In order to ensure that as many bombs as possible fall on the city and in those places where it is most vulnerable to incendiary attack the aiming mark selected frequently lies in the centre of the most densely built-up areas... [Consequently] any attempt to restrict the C.-in-C's tactical freedom by imposing upon him an obligation to select an aiming mark which is definitely a military objective might well reduce the efficiency of our attacks and prejudice our chances of achieving our object which is the destruction of Italian morale.

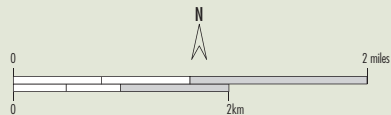
It was a statement that reduced to its bare bones the brutal aim behind bombing cities. Yet Portal grew increasingly concerned about Bomber Command's reputation when it came

8 Informing those who did not need to know about operational details carried the risk of court martial and two years in prison.

1. Milan Central Station
2. Caproni Works producing Caproni bomber aircraft
3. Alfa Romeo Factory producing the Daimler-Benz aero-engines under licence
4. Breda Ernesto S.A. factory producing fighter aircraft, such as the Macchi 202 *Folgore*, and bombers, such as Breda Ba 65 and Ba 88, tanks, guns and locomotives
5. Scala Farini Marshalling Yards
6. Società Italiana Pirelli Works manufacturing rubber and tyres, and electrical cables
7. Isotta Fraschini (part of the Caproni Corporation) producing aero-engines and land armaments
8. S.A.F.A.R producing radio equipment for the *Regia Aeronautica*



- Heavy Flak gun (12)
- Light Flak gun (14)
- Factory/industrial plant
- Railway



OPPOSITE TARGET MAP: MILAN

to Italy, and on 11 December even informed Harris that 'the Air Force is being accused of vandalism'. Indeed, the CAS felt compelled to reprimand the C-in-C Bomber Command:

I cannot believe that the Duomo was the only suitable aiming mark. I know it can be said that the actual aiming mark itself is unlikely to be hit but I cannot think that anyone would regard this as an adequate defence, and I hope that you will ensure that historic buildings are not chosen as aiming points in the future.

Portal therefore hoped Harris would try his utmost 'to avoid giving this kind of ammunition to our enemies abroad and our opponents at home' by choosing carefully the aiming point(s) for attacks on Italian cities.

Yet the episode carried further ramifications in restricting the Italian target list. 'It was for this reason', Portal wrote, that a ruling was imposed on bombing Florence and Venice which could only be undertaken after 'prior reference' to the Air Ministry, with 'the same applying to Rome'. Concern over controversies and political repercussions often drove British bombing policy on Italy, something that was never seen with regards to Germany.

The daylight operation brought about another complaint as well. One 9 Squadron rear gunner, Harry Irons, recalled that some Lancasters went down and machine-gunned Milan's streets. Low-level strafing on Italian operations seemed almost encouraged by RAF station commanders and briefing officers, but it was an altogether dubious practice. Gordon Paterson, operational with 7 Squadron, recalled crews being given a choice as to what altitude they would fly across Europe to Italy. If a low level was chosen, then the attitude was 'anything moving was legitimate', he recalled. In fact, 5 Group crews seemed particularly 'trigger-happy' on 24 October. The PWE Department of the Foreign Office was soon called on to investigate allegations of an aircraft using its machine guns against a group of passengers standing on Montluçon train station in central France. Eyewitness accounts stated the aircraft type could not be identified, but the one responsible carried the 'WS' marking on its side, which could only mean a 9 Squadron Lancaster. The PWE were appalled, Bottomley told Harris, because such incidents 'are most harmful to the Allied cause, particularly at this moment when the internal situation in France is so critical'. Bomber Command was sternly told to prevent such things from happening again. In contrast, the issue over Genoa was a problem within Bomber Command's headquarters, and concerned the fulfilment of orders passed down the chain of command. In the attacks on 5/6 (cancelled), 6/7 and 7/8 November, Harris had stated the bombing was to be made on aiming point 'C'. Yet subordinate officers at High Wycombe concluded this area had received heavy damage already and therefore 'any bombing errors should be made to the east of the aiming point rather than to the west'. Without Harris' knowledge, they would pass such instructions to 5 Group. The inevitable result was operational confusion, in which bombing was spread throughout Genoa. An internal investigation led to some valuable recommendations for future operational planning that included the stipulation that 'aiming points must be perfectly plain, and without qualifications'. Yet for the C-in-C there was a wider issue at stake. Already riled by an earlier attack on Munich being spoilt by his staff failing to increase the incendiary composition of the bombloads, 'whether through negligence, stupidity or sheer disobedience', Harris had called for the 'guilty' individuals to be removed from his headquarters. This formed the backdrop to what then transpired at Genoa, with unauthorised orders leading to operational failures. 'I will not brook any repetition', he warned somewhat menacingly, 'and no matter how well-meaning the

OPPOSITE TARGET MAP: GENOA

parties concerned, if a further instance occurs I will take the most drastic and immediate disciplinary action.' Harris' reputation for running his headquarters with an iron rod was hardly misplaced.

Reviewing bombing policy towards Italy

The bombing of Italy had been intended as a temporary measure to support the major operations in North Africa. Yet the success of *Torch* and Montgomery's offensive at El Alamein meant several considerations came to be examined. First, with the Axis position in North Africa seemingly collapsing, could the bombing be 'scaled-up' into an air campaign designed to knock out Italy altogether? Second, if attempted, how could the Allies bring about this intensified bombing effort against Italy; where could it be launched from and, most important for Harris, in what way would this involve his Command? Britain's senior political and military figures all considered these questions in late 1942.

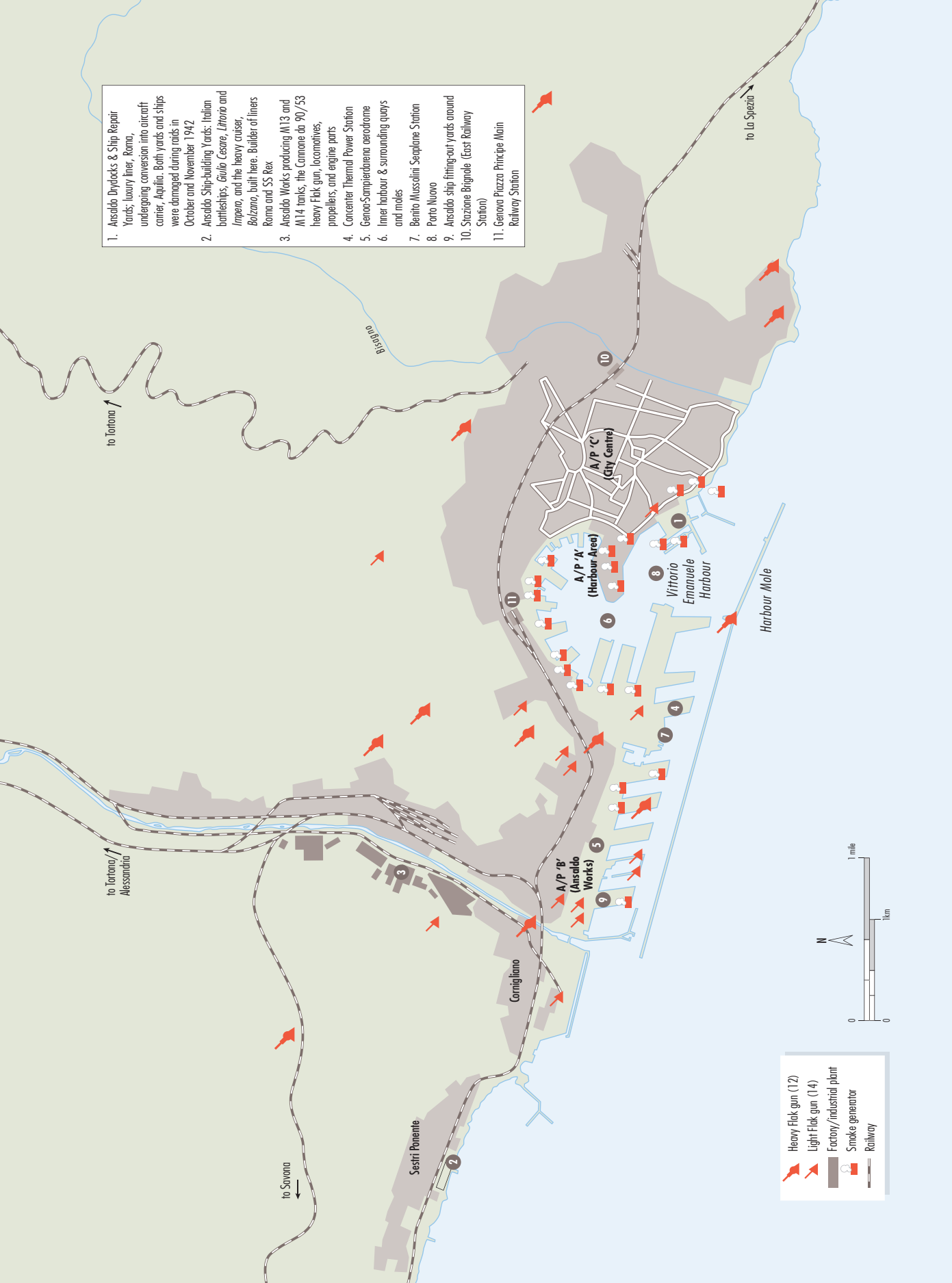
The review of British bombing policy towards Italy was started by the War Cabinet. In its meeting on 9 November, the CAS was asked to make an assessment on whether Bomber Command could undertake attacks on Italy by using North African airfields. Portal approached two people for assistance on this issue, namely the C-in-C on the one hand and, for 'an independent appreciation of the same problem', the ACAS(Ops) on the other. Using Bottomley meant in effect drawing on advice from the Directorate of Bomber Operations, which was to make its assessment based on the assumption that 'the primary aim ... is to achieve as early as possible the knocking out of Italy'. Their report, ACAS(Ops) told Baker and Bufton, should present the objectives that could be reached and the scale of effort that could be applied. Meanwhile, Portal sent a similar request to Harris, though the CAS wanted an investigation of the tactical elements of Bomber Command attacking Italy, which included analysing the advantages and disadvantages of operating from Malta, North Africa or on the 'shuttle' service.

By 13 November, Harris had completed this task, though admitting to Portal it had been compiled 'in rather a hurry'. Running to some 2,000 words and incorporating three

appendices, the main paper assessed the three methods by which Bomber Command could operate against Italy. The ultimate conclusion was no surprise: on grounds of administrative and shipping considerations, Harris ruled out all the options. Notwithstanding the lengthy points presented, Harris simply, and rather understandably, had no wish to see his force divided between the UK and Mediterranean because this chronically reduced the numbers available for bombing Germany – Harris' primary goal. Not surprisingly, he recommended the 'Best Course' was to continue to operate from British bases, with targets in southern Italy being the sole responsibility of MAC's bombers based in North Africa.

The crew of Sgt J. Newcombe pose for the camera by the rear turret of a Halifax Mk II of No 78 Squadron. They had been rescued after ditching into the sea on their return from bombing Genoa on 7/8 November. Ditching into the sea, owing to flak or fighter damage or, most likely, fuel starvation, was not an uncommon occurrence for bomber crews returning from an Italian operation. This crew were lucky: ditching was always a perilous undertaking, with the aircraft liable to break up on hitting the sea, causing some if not all the crew to drown. (IWM HU 107765)





Harris, however, soon faced an unpalatable twist. Three days later, Bottomley informed Portal that the Directorate of Bomber Operations believed Harris' 'Best Course' should be modified, with the C-in-C having to transfer four Wellington squadrons to Air Chief Marshal Arthur Tedder's command in North Africa. Nonetheless, the Directorate's ultimate conclusion reflected that of Harris: Bomber Command was best operating against Italy from its home airfields.

Meanwhile, on 17 November, Churchill wrote a note for the British COS that stated the Allies should 'strike at the under-belly of the Axis in effective strength and in the shortest time' after victory in North Africa. The Prime Minister did not hold back: Italy must be made to 'feel the weight of the war', with its industrial cities attacked 'in an intense fashion' to make them cease to function and uninhabitable, and most brutally 'to terrorize and paralyse the population'. In essence, Churchill wanted the initial attacks on Genoa expanded into a much more vicious and wider programme of aerial attack to break civilian morale and force Italy's capitulation. To achieve this, he wanted Bomber Command to make sustained attacks on northern Italy – indeed, Harris was set to commence the battle of Turin that night until weather scrubbed the operation – whilst British and American bombers in the Mediterranean would undertake continuous heavy attacks on southern Italy, especially against Naples and Rome.

On 29 November, Portal placed before Churchill the plan for the air offensive against Italy. Attacks should be 'concentrated' on Italy's most important cities and naval bases – Milan, Rome, Naples, Turin, Genoa, Taranto, La Spezia and Brindisi – by heavy bombers based to the north and south of Italy. For Bomber Command, Italy was no longer an *ad hoc* arrangement or temporary commitment but was to be a more permanent fixture because Portal stipulated northern Italy now had to be attacked whenever weather conditions permitted (for the rest of 1942, Harris did just that). Churchill liked what he was being told. In a radio broadcast that night, he stated that following the Allied victory in Tunisia, Italy 'will be brought under a prolonged scientific and shattering air attack'. This declaration did not go unnoticed in Rome. In his diary, Ciano wrote gloomily:

Churchill makes a speech which relates particularly to Italy. Unfortunately, I do not see what means are at our disposal today to frustrate his programme of a scientific and demolishing offensive against our country. In the last few days Turin has suffered more hard ordeals.

These 'hard ordeals' seemed proof of Douhet's theories about the effects of strategic bombing on civilian morale, which in Turin seemed to be crumbling. As a result, Churchill, clearly in a very hawkish mood over Italy, (in)famously minuted Sinclair and Portal on 3 December to state that 'the heat' should be turned on to Italy. This was the Prime Minister's attitude when the War Cabinet met on 17 December to pass its final agreement for a strategic bombing campaign against northern and southern Italy.

For Bomber Command, it must be asked how far their part of the air offensive meant an expanded target list of northern Italian cities. Certainly, at this time consideration was being given to such places as Rome, Florence, Venice and Verona. It was Churchill who asked Harris about bombing the Italian capital, and the C-in-C's reply came in the form of Operation *Audax*. Portal recommended it to Sinclair 'from the military point of view', for the plan saw Bomber Command make a 'precision' strike on Mussolini at his office and home in Rome, though even this did not fully conquer the long-standing religious and political objections to bombing Italy's capital. Notwithstanding the hostile reaction of Catholics worldwide, the government felt religious opinion in Britain might turn against bombing more generally. Sinclair also added, somewhat ironically given his own political affiliation, that 'liberal opinion is a bit sticky' about bombing Rome because it is regarded 'as one of

the shrines of European civilisation'. Therefore, although bombing Rome had been far from ruled out, the disadvantages meant it could only be undertaken when there was the prospect of achieving a really decisive result, such as bringing about Italy's capitulation, which in December 1942 did not yet exist. Consequently, *Audax* was to be held in abeyance until 'circumstances appear to warrant that the policy should be reviewed' (which occurred in mid-July 1943). In essence, the civilian politicians were no less squeamish about bombing Rome to affect Italian morale than the 'Bomber Barons'. Eden's argument in late 1942 was therefore based on it being the wrong time, not an unethical operation. The foreign secretary wrote that:

[T]he maximum affect [*sic*] of bombing the seat of the fascist Government ... could be attained by reserving it as the climax in an intensive bombing campaign. I recommend, therefore, that the bombardment of Rome should be left until a moment when we have reason to believe that Italian morale had reached breaking point.

Beyond the Italian capital, the Air Staff were considering two other targets at this time, namely Florence and Venice. These cities differed from the Italian capital, Sinclair observed, because the chief consideration for bombing Rome was it being the home of the Fascist government, which was located right in the heart of the city. In contrast, the targets in Florence and Venice, namely the war industries, lay some distance from the historic buildings, cultural sites and artistic treasures found in the city centres. Consequently, Sinclair believed operations against these two cities were possible. In fact, the prospect of mounting attacks on Florence and Venice at this time seemed a real possibility. Target maps and aerial photography had been sent to RAF stations by 29 October, and aiming points were distributed on 2 December. Yet shaken by the negative reaction in some quarters to Bomber Command's attacks on Milan, with its controversial choice of aiming point, the Air Ministry moved quickly by sending an instruction to Harris that stated 'no operation involving serious risk to Non Military Buildings in Venice of [*sic*] Florence is to be undertaken without reference being made to the Air Ministry'. Behind this lay the politicians, who once again had intervened to control the bombing offensive against Italy. Eden told Sinclair that 'although I am all in favour of widening our range of Italian targets, I hope that we shall not feel it necessary to attack cities of great artistic interest such as Florence and Venice'. The Air Ministry never did give its permission for Bomber Command to attack Florence and Venice; Harris never asked for it either.

Regarding Verona, the case for attacking the city came from intelligence received by the British Air Attaché in Berne in late November. This stated it was 'a most vulnerable spot in their [Axis] line of communications to the south', situated at the intersection of the main electrified lines running from Milan to Venice and Brenner to Bologna. Verona also contained one of the biggest railway stations in Italy and large marshalling yards. It was therefore felt that attacking Verona 'would delay reinforcement of Southern Italy and Sicily and may prevent important units and material reaching Tunisia'. But bombing this target was soon rejected on practical grounds, for Bottomley noted 'past experience' had shown railway targets needed to be attacked repeatedly. Besides, alternative lines could be used for the southward movement of Axis forces. There was also the distance and the continually ticklish problem of overflying Switzerland: a return journey to Verona was 1,480 miles, and its location in north-east Italy would likely incur a high number of Swiss airspace violations. Bombing Verona therefore encapsulated the limits of Bomber Command's operations against Italy conducted from the UK, with targets east or south-east of Milan especially problematic. Partly for this reason of distance, and partly for religious and political objections, Bomber Command's Italian target list would remain confined to Turin, Milan and Genoa, with La Spezia added later.

‘Hammering the home of Fiat’: the battle of Turin, November–December 1942

Mid-November 1942 saw Harris switch targets from Genoa to Turin – the capital of Piedmont, a university city, and home of Fiat and Lancia. The Admiralty was not pleased by this change because of their opinion that ‘as long as the Italian Fleet is in being ... [it] will be a constant nuisance and menace to through convoys in the Mediterranean and it must be our object to render it ineffective as soon as possible’. Yet for Harris this was precisely the point. Switching targets allowed Bomber Command’s operations to not remain tied to the navy’s requirements in the Mediterranean theatre. For Turin was arguably *the* major centre of Italy’s war production, and assessed correctly as suffering from shaky morale owing to wartime shortages and an ever-lengthening list of Italian military defeats, which from this time now included southern Russia. Moreover, Italian communiqués continually admitted the effectiveness of British attacks on Turin, which only served as a further spur for Harris to keep attacking this unfortunate city. Harris’ turn to Turin therefore made sense, particularly as the city always had a tendency towards left-wing politics and anti-Fascism. It seemed ripe for achieving the fundamental purpose of area bombing, namely devastating an enemy’s war industries and breaking its civilians’ morale.

From 18/19 November to 11/12 December, a period of just over three weeks, Turin was attacked a total of seven times. This was a ‘bomber battle’, given the overwhelming concentration on this one target, though British aircraft hardly had to fight their way through the local air defences. Only 27 aircraft were lost, and a disproportionate number of these were caused by engine failures, fuel starvation or landing crashes in poor visibility. Opening with a moderate effort by 77 aircraft, the aim was to inflict damage on multiple locations throughout Turin. This was because three separate aiming points had been allocated to the main force:

- First section: 1 Group (Lancasters), 3 Group (Wellingtons), 4 Group (Halifaxes), and 8 Group (five aircraft) – Aiming point (between Royal Arsenal and main railway station)
- Second section: 3 Group (Stirlings) – Aiming point (Royal Arsenal)
- Third section: 5 Group (26 Lancasters) – Aiming point (Fiat Works Mirafiori)

All these locations were ‘blasted’ by bombloads overwhelmingly consisting of high explosives, with 92.9 tons compared to 32.4 tons of incendiaries. Alongside the ordnance came the leaflets, with 36,000 being dropped, which showed the connection between the bombing and political goals. Clear weather had allowed navigators and bomb aimers to identify the ‘junction’ of Turin’s major rivers, the Dora Riparia and the Po, which greatly assisted locating the precise aiming points. Attacking from heights between 5,000 and 12,000ft, the city centre

was soon ablaze, although this smoke soon hindered 5 Group’s attack on the Fiat Works. However, by chance a flare dropped on the main building and some direct hits were scored, including one by a 4,000-pounder that damaged workshops, the factory railway station and main building. The Italian communiqué admitted ‘appreciable damage’ had been caused to Turin; in contrast, Bomber Command lost no aircraft to Italian defences, but a Halifax from 35 Squadron endured a frightening moment over the Alps when the aircraft’s bomb bay burst into flames due to ignited incendiaries. All the crew bailed out, except the pilot, who was about to jump when inrushing air from an open hatch doused the flames. Regaining the controls, he single-handedly flew the damaged bomber back to England, where it crash-landed.

A 10 Squadron Halifax Mk II landing after a long trip to Turin in November or December 1942. The daylight conditions on arrival give an idea about the duration of an Italian operation, which was around 9½ hours to cover the 1,400-mile round trip. The problem of daylight hours became a real problem during summer months, and meant Bomber Command could not undertake operations to Italy from UK bases from late April to mid-August. The 12/13 July 1943 operation to Turin showed the problem of bombers being caught on the return over north-west France and the Channel in daylight, with the Luftwaffe’s fighters shooting down a number of bombers. (IWM CH 7908)



Bomber Command scaled up its attack by sending a large force of 232 aircraft on 20/21 November, though a high number aborted due to technical failure (29 sorties). In sending this force, Harris had gambled on the weather forecast for both the bases and along the route, with thick cloud up to 10,000ft over the Alps, leaving only the peaks protruding. But this paid off for it dissipated quickly on the south side, on the Lombardy Plains, leaving Turin clear. Bright moonlight allowed for easy identification of the city's landmarks and the two aiming points, namely the city centre, bombed by the main force, and the Fiat airframe factory (Falegname), which was the objective of 59 Lancasters from 5 Group carrying 4,000-pounders. The factory would be plastered by HE bombs and incendiaries, whilst fires would rage in the city centre itself. Serious damage was also inflicted on Turin's industrial areas in the south and west of the city. In return, the operation saw one of the few claims by an Italian night-fighter,⁹ when a CR.42CN, from 41 Stormo based at Treviso, downed the 76 Squadron Halifax of New Zealander Sgt B. A. Wisely. Turin's flak damaged three Stirlings, all from 7 Squadron: Sqn Ldr W. N. Crebbin's suffered hits to the bomb bay; Fg Off. H. Duro's saw its starboard elevator nearly blown off and an escape hatch blown in; and Plt Off. W. Boylson's CSU (Constant Speed Unit) was shot off from the starboard engine. A number of British aircraft were lost to engine failures – a not infrequent problem on these long trips to Italy during late 1942.

A week later, Harris sent another large force to Turin. Comprising 228 aircraft, it contained a greater number of Lancasters but considerably fewer Wellingtons, which meant a greater

- 9 There may have been more claims, but these were either combined with flak 'kills' or misreported as being from other causes.

'A Stirling effort': Turin and Pilot Officer Middleton's VC

On 28/29 November 1942, Turin was the target for a large attack by RAF Bomber Command. Two hundred and eighty-eight aircraft from the Pathfinder Force and 1, 4 and 5 Groups were assigned the task of bombing the city centre. 3 Group, comprising 11 Wellington Mk IIIs and 34 Stirling Mk I and IIIs, were assigned a different aiming point, namely the Fiat Mirafiori factory that lay in the south-western part of Turin. Within this group was the aircraft depicted here, the 149 Squadron Stirling Mk I of Plt Off. Rawdon Middleton (RAAF). A sheep herder from rural New South Wales, in Australia, by late November 1942 Middleton had become an experienced heavy bomber pilot. Briefly with the PFF's 7 Squadron, he elected to remain with his existing crew and transfer back to 149 Squadron. Turin would be their 29th operation. Although attacks on Italian targets were generally considered easy, the long journey (about 9 hours flying time) and the crossing of the Alps were formidable obstacles that had to be overcome. Middleton encountered such difficulties on 28/29 November, in which his under-performing engines prevented the Stirling from gaining the altitude to clear the high peaks. The Stirling then had to 'thread' its way through the Alpine valleys in order to cross the Franco-Italian border. Yet it was Middleton's conduct both over the target and on the return journey which has forever put this Australian into the history books. His engines still troublesome and smoke over the city meant Middleton flew several times over Turin at 2,000ft to locate the Fiat Mirafiori factory. On the fourth run over the target, a light flak shell came right through the cockpit, seriously wounding Middleton, the second pilot and navigator. Middleton had sustained wounds to the chest and legs, and severe facial injuries in which shrapnel had removed his right eye and part of his jaw. Initially unconscious at the controls, the wounded second pilot dropped the bombs, but Middleton soon elected to get the bomber back home – rather than to land in Switzerland and risk being passed over to the Germans. He would now undertake the difficult task of flying the wounded and struggling Stirling through the valleys and past the Alpine high peaks, despite continuing to haemorrhage blood. The flak shell had also broken the cockpit's Perspex windscreen, and through the holes came extremely cold air that blasted the pilots. Sustaining further flak damage over France, the Stirling got to the English Channel but was now short of fuel and Middleton doubted he could make a safe landing. He elected to steer a course parallel to the land so that the crew could bail out; five did so, but Middleton and two others, who were unable to escape, perished. Middleton was awarded a posthumous VC, and Harris personally wrote to Middleton's father about his son's gallantry. DFCs were also awarded to Plt Off. G. Royde and Plt Off. N. Skinner, and DFMs to Flt Sgt L. A. Hyder, Flt Sgt D. Cameron and Sgt H. W. Gough. The bravery, 'press on' spirit and colossal sacrifice represent the accompanying story to this battlescene. Undoubtedly, Middleton and crew were the bravest of the brave.



GRAHAM TURNER 1/15



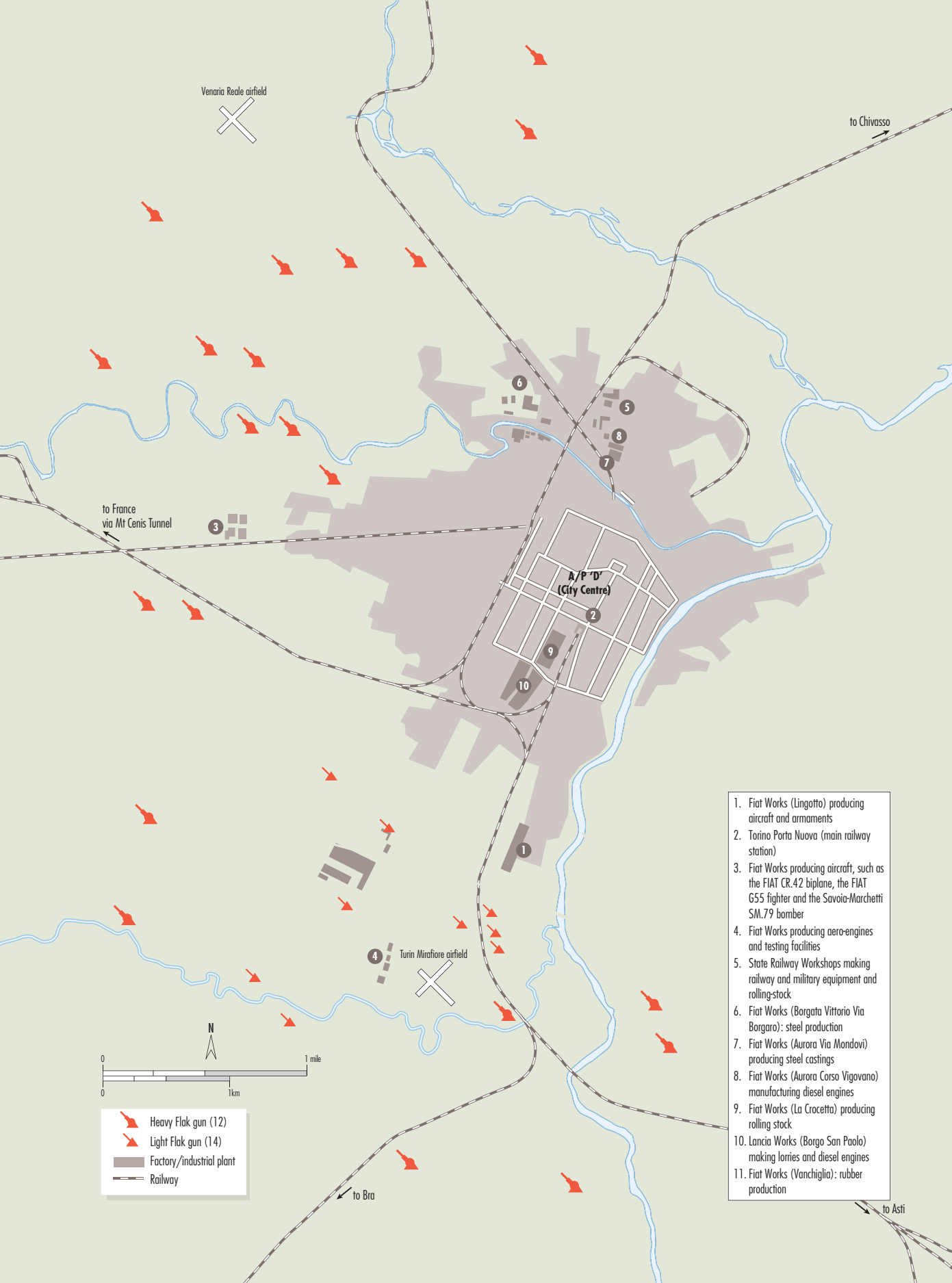
OPPOSITE TARGET MAP: TURIN

tonnage of bombs were dropped. Italian authorities described the devastation inflicted as 'enormous', which saw residential districts hit badly and damage to 53 factories, that included the two Lancia factories and State Railway Works. 3 Group's Stirlings separately attacked the Fiat Aero-Engine Works (Mirafiori), causing significant damage. Large fires took hold of the central, north-western and south-western areas of Turin, and crews bombing in the later stages found a pall of smoke drifting all over the city and the glow of fires for many miles. Explosions were also observed, especially around the Royal Arsenal, and a violent blast in the north-east suburbs may have been caused by two Lancasters from 106 Squadron (one flown by Wg Cdr Guy Gibson, who later led the Dambusters raid) dropping the first 8,000lb bombs on Italy and hitting a gas main. The heavy flak seemed more intense but remained ineffective, but fire from light flak guns, situated in the marshalling yards, by the Lancia Works, and on the rooftops of the Fiat factories in southern Turin, was more continuous, and this no doubt inflicted the damage on the 149 Squadron Stirling of Flt Sgt Rawdon Middleton, who won the VC on this night.

Eager to keep up the pressure, but seeing the weather thwarted the participation of the Groups based in Lincolnshire and Yorkshire, preventing a 'maximum effort', Harris despatched what he could the following night, which was very modest indeed. Despite a number of losses already incurred during the battle of Turin, 20 Stirlings of 3 Group were still despatched, being joined by nine Stirlings and seven Lancasters from the PFF. But this attack saw no respite for the Stirlings, with another three being lost: one from 7 Squadron being shot down by a German night-fighter near Paris, a 75 Squadron aircraft crash-landing owing to a faulty bomb release mechanism, whilst 149 Squadron suffered another loss, when the aircraft of Flt Sgt V. T. Bowie (RNZAF) crashed in Italy. Operations to Turin were proving a quite wretched experience for Bomber Command's first four-engined heavy bomber. The rest of the bomber force, earmarked the aiming points of the previous night, experienced problems *en route* with severe icing and only half crossed the Alps. Tellingly, whilst all the Pathfinder aircraft continued, 16 crews from 3 Group turned around their increasingly 'ropey' aircraft. Few could condemn them for doing so. It was hard enough to get a heavily laden aircraft over the Alps when everything worked perfectly, let alone one that was iced up and prone to mechanical failure. The aircraft that continued were then thwarted by a dense haze over Turin – a common observation of British aircrews about this target – which obscured the aiming points. Given the small number of aircraft involved, the amount of damage inflicted would have been low, though all crews claimed they had dropped their bombs 'somewhere' in the city.

Reconnaissance revealed collective heavy damage to Turin's industrial and residential areas. However, the bombing was not just causing material damage but was affecting civilian morale as well. In his post-war account, Harris noted that 300,000 people – over half of the city's population – fled Turin after the 20/21 November operation in a panic more intense than the one that had gripped Milan after the daylight attack. Turin's prefect noted his city's population was 'depressed, nervous, irritable and alarmed'. On 21 November, Ciano wrote in his diary:

Tonight it has been Turin's turn, and the city was the object of a bombing that was heavier than any other attacks, including those on Genoa. This now raises serious problems: the evacuation of the cities, the question of supplies, and the reduction of the industrial potential in Italy. It is useless to build up illusions. All this has a considerable bearing on morale, and the spirit of resistance is less than one might expect.



To capitalise on this crumbling 'spirit of resistance', Churchill proposed dropping a leaflet on the bombed city that stated: 'One man is the cause of your sufferings – Mussolini.' Such a message quite literally fell on fertile ground in Turin, given its history of 'red' politics, industrial unrest and anti-regime feeling.

Recognising the need to do something, on 2 December Mussolini publicly announced a policy of nightly civilian evacuations from the industrial cities of northern Italy, with only military personnel remaining behind. A policy of industrial dispersal was also announced, with firms relocating to tunnels or caves, or to remote towns and villages. This programme brought its own problems, however, namely additional strain on transportation in carrying workers and raw materials to and from the remote factory sites, with a greater drain on already scarce fuel supplies caused by lorry transport, providing such vehicles could be found in the first place. Nor was the nightly evacuation of labour a solution either, for this measure, according to Italian historians Baldoli and Fincardi, caused 'increased panic and lowered morale, as Italians realized that evacuation represented the [regime's] only anti-aircraft "solution"'. Lowering morale moreover created a 'jumpiness' that adversely impacted on individual productivity and war production. The British were only too aware of this. On 2 December, the Air Ministry signalled HQ Bomber Command that:

Intelligence reports show ... that on passage of aircraft over Italian Frontier air raid alarms are sounded in the whole of Piedmont, Lombardy and Liguria causing almost all activities to come to a standstill. Suggest you consider exploiting this reaction by operating a few aircraft with expert crews against targets in Northern Italy on occasion when weather is unsuitable for large-scale attacks.

Harris would not act on this suggestion, however. He had little wish to use (and potentially fritter away) aircraft on what he perceived as inconsequential operations to Italy. He preferred instead to continue with large-scale attacks, and December saw three such operations against Turin in four days.

The first attack, on 8/9 December, saw 108 of the 133 aircraft despatched comprising Lancasters from 5 Group or the PFF, with the remainder being the 'other' aircraft operated by 8 Group, namely nine Halifaxes, seven Stirlings and nine Wellingtons. In the no-nonsense language of the time, crews were told that 'the primary object of the attack was the destruction of the aiming point and its immediate vicinity'. The subsequent bombing did indeed cause serious damage to industrial, municipal and residential property around the target. There was a massive blast in the area lying between the main railway station and River Po, caused by an 8,000-pounder, which created a column of smoke that remained visible to rear gunners for some 60 miles. Turin was still burning when Harris sent a large force of 227 aircraft the following night in order to increase the disruption, with nearly half being Lancasters. Turin was free of cloud, but the bombers confronted the long-standing difficulty of returning to a target so soon after the previous attack, and smoke would initially hamper the target-marking. But continuous illumination was undertaken by the PFF's 'finders', who released sticks of flares (at eight-second intervals) in straight lines that ran in four directions across the target area, thus creating an ominous looking cross over Turin. With such illumination across Turin, the Pathfinders were able to locate and mark the aiming point over the main railway station with flares. In a testimony to how meticulous the planning of bomber operations had become, these had been set to ignite at 1,000ft so they would illuminate above the expected ground-haze, whilst all PFF aircraft carried red and green target-indicators (TIs) to be used only if the aiming point 'had been found with complete certainty'. As had become the norm on Italian operations, 5 Group's Lancasters attacked from the lowest altitude, in this instance 8,000ft, whilst other Groups remained at 11,000–16,000ft. The combined effect was damage that the Italians described as 'enormous', with the city centre receiving the full

weight of the attack. Three large fires lit up the urban area, allowing crews to see clearly their 4,000lb 'cookies' exploding amongst the buildings. It was small wonder that crews could see the infernal glow of Turin when re-crossing the Alps on their return.

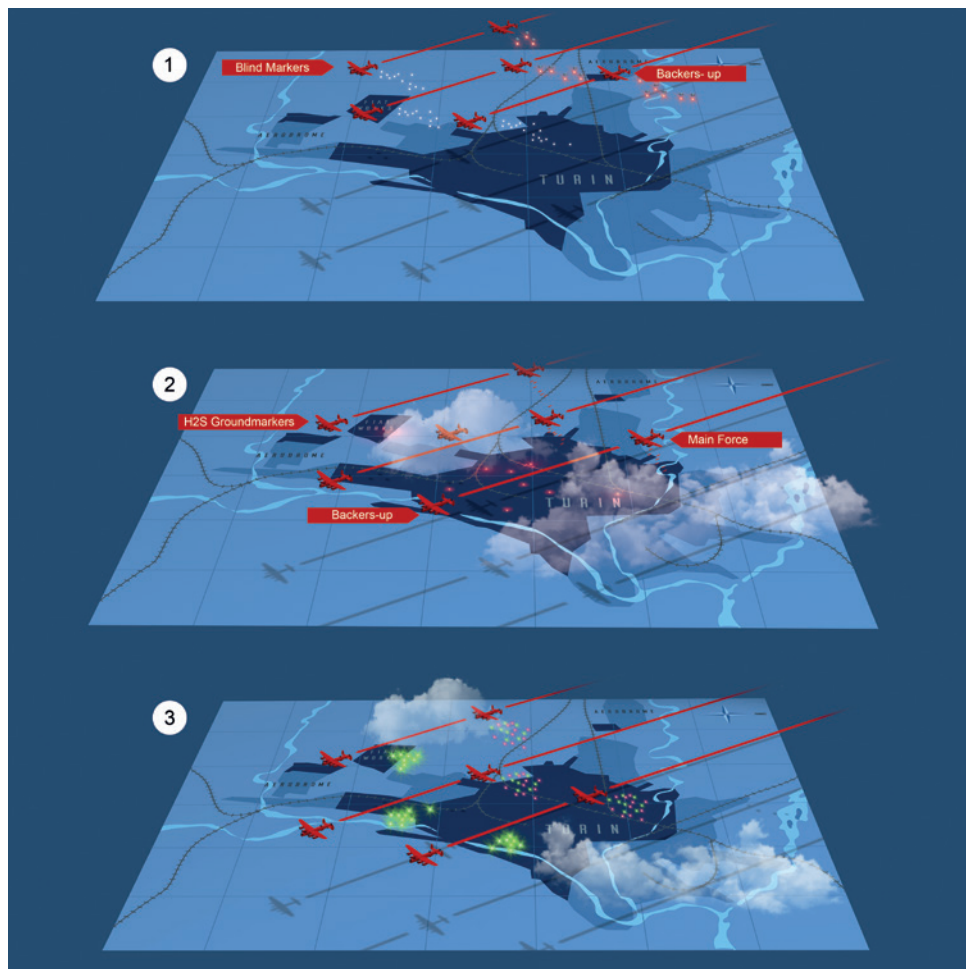
Following a night of poor weather, Harris launched the battle of Turin's last attack on 11/12 December. It would be an anti-climactic effort. Exceptionally bad weather limited the force to just 14 Lancasters from 1 Group, 42 Halifaxes from 4 Group, and 26 aircraft from 8 Group. Harris took a massive risk in sending these bombers, for a weather reconnaissance flight (codenamed *Pampa*) had reported at 1630hrs there would be little hope of less than 10/10ths cloud over Turin. Yet clearly he believed it remained important to get some bombers somewhere over Turin to keep up the pressure on the city's civilian population. However, the elements conspired to limit the numbers attacking the city even further: 50 per cent of the bomber force turned back owing to technical difficulties or the weather. From the French coast to the Alps there had been thick cloud up to 28,000ft, with severe icing and high winds (60mph at 13,000ft) only adding to the bombers' difficulties, and the few bombers that continued crossed the Alps 'blind'. Perhaps recognising there was little chance of accurate pinpointing of the aiming point, the crews had been briefed to simply 'bomb the area on the east side of the city, between the railway and the river, making use of river bends as far as possible for identification'. Many did so, although one PFF crew found a lucky gap in the cloud and dropped their 4,000-pounder right on an unidentified factory in southern Turin. On an altogether unsuccessful evening, Bomber Command was confronted by a loss rate of 6.1 per cent, comprising four Halifaxes and one Stirling. The latter was a particularly bitter loss for 7 Squadron as it had carried the unit commander, Sqn Ldr V. C. McAuley DFC, as an eighth crew member. The aircraft had descended to bomb Turin from 7,000ft, but at this point flak – considered 'stiff' on this night – hit an engine. Unable to climb the Alps again, the crew abandoned the Stirling, which crashed at Fossano, and all became POWs except for the pilot, the highly decorated Flt Lt W. T. Christie DSO, DFM, who perished.

Eager to not give Turin any respite over Christmas, Harris had intended to send his bombers there on 24/25 December. But a mid-afternoon *Pampa* flight forced its cancellation because it reported that 10/10ths strato-cumulus covered the Lombardy Plains and this weather, the chief meteorological officer at HQ Bomber Command, Magnus Spence, stated, 'must be accepted as representative of conditions in that area tonight'. Charlwood recalled that when the operation was announced as having been cancelled, 'a madness descended on the station'. For the Italians, Christmas 1942 brought substantially less joy. On 25 December, Ciano noted:

Fougier is very deeply pessimistic. As far as he is concerned the war is already lost; in fact, it was lost some time ago, and now the only thing that remains is to find the way to end it as soon as possible, and with the least harm to us.

Alongside continuous Italian military setbacks in North Africa and southern Russia, Bomber Command's heavy attacks had led to evacuation, as shown by that from Turin after 20/21 November; stampedes, such as one that had killed 354 people in Genoa on 23/24 October; and panic, as shown after the day/night attack on Milan on 24/25 October. All this indicated a society suffering from the stress of bombing. The end-of-year 'balance sheet' showed considerable damage had been inflicted to the industrial areas of all three cities, though less so to that of Milan. Genoa's shipyards, fitting-out yards and Ansaldo Works had all been severely affected, whilst Bomber Command's *Quarterly Review* proclaimed that Turin:

now ranks among the most heavily damaged cities on the European continent, and its industrial war effort is probably reduced to less than half its normal level. Such complete disorganisation as occurred during its three weeks of air raids is unprecedented in the annals of Bomber Command.



ABOVE TARGET-MARKING TECHNIQUES FOR THE TURIN OPERATION, 4/5 FEBRUARY 1943

The raid report by the Operation Research Section of HQ Bomber Command stated that 'on reaching the target, these aircraft were to carry out one of the following marking techniques, according to the cloud conditions prevailing at the time'. These were:

(1) If visibility was good, seven H2S-equipped aircraft were to illuminate the target at zero to zero + 3 by dropping sticks of flares at ten-second intervals across the city from north-west to south-east. They were to be supplemented at zero + 1 by similar flares dropped by three of the 'backer-up' aircraft. All 13 of the 'backer-up' aircraft were then to drop salvoes of red TI markers, bursting at 3,000ft. The main force of 168 aircraft was then to bomb in the centre of the concentration of these red markers (Newhaven).

(2) If cloud conditions were such as to render illumination impracticable, the specially equipped aircraft were to act as ground markers, dropping red TI markers instead of flares. 'Backer-up' aircraft were then to drop their markers on those already on the ground (Parramatta).

(3) If cloud conditions prevented ground-marking, the sky-marking technique was to be used. All PFF aircraft were to make a left-hand turn and to return on a reciprocal course for four minutes. They were then to approach the target on the same track and at zero + 7 to drop single bundles of green warning flares at position 4509N 0728E. These were to be followed at zero + 10 by release-point flares (red with green stars) dropped by the specially equipped aircraft and fused to ignite at 10,000ft. Main Force aircraft were to bomb these flares on their current heading. If no markers were seen, crews were instructed to bomb on ETA (estimated time of arrival) (Wanganui).

Method (1) was adopted and, as a result, 'the Pathfinders dropped their flares and marker bombs correctly and on time. Some marker flares were observed near the Fiat factory in the west, and another cluster fell close to the centre of the city. A concentration of incendiaries was aimed at these points, and many large fires were started in the built-up area, particularly in the western suburbs. Returning aircraft reported that the town was rapidly becoming obscured by smoke and that a deep red glow could still be observed from the Alps.'

Perhaps an exaggeration, but real devastation nonetheless had been inflicted on industrial Turin, with some 70 factories nearly or partially destroyed. These included the Lancia plants, the Ceirano Motor Works, a Michelin tyre factory, the State Railway Workshops and Royal Arsenal. Moreover ten factories of Fiat had been damaged, including the Lingotto Works, the Mirafiori site and the airframe plant at Falegname. For Harris, amongst Turin's 500 acres of damage lay vindication of the area bombing philosophy: civilian morale had been lowered, and so had war production.

Implementing official Directives, February–June 1943

On 16 December, Churchill wrote that 'the bombing offensive over Germany and Italy must be regarded as our prime effort in the Air ... To maintain a steady crescendo is an offensive measure of the highest consequence.' For both Axis countries, 1943 would see Bomber Command do exactly that. Italy's ordeal began in February 1943 with attacks on Turin and Milan. These were undertaken to hit Italian morale at the time of Axis defeat in southern Russia on 2 February (100,000 men of the Italian Eighth Army had also surrendered at Stalingrad) and the Italian–German collapse in Libya two days later. Symbolically, that morning saw an emotional Churchill take the victory salute of British forces marching into Tripoli. 'All around,' Brigadier Jacob noted, 'were the veterans of the Eighth Army standing in the last city of Mussolini's Empire.'

To bring home this defeat, 188 heavy bombers were despatched to Turin that night – the target chosen because intelligence from Italian sources had revealed civilian morale was especially bad. For Bomber Command this operation also allowed a 'test' of H2S, as both a navigational aid and target-marking device, and whether a flexible approach to target-marking – dictated by the conditions experienced over the target at the time – could be successful.

In the event, the usual conditions of clear skies over Turin saw the standard method used, namely ground-marking, in which flares illuminated the target area before further ones were placed visually on the aiming points. But this was not a perfect performance by any means. 'Creep-back' occurred along the bombers' line of approach, caused by scattered incendiaries, and isolated fires were seen a worrying 12 miles from the aiming point. HQ Bomber Command judged that few aircraft 'attempted to identify the target visually, [even] though flares were burning over Turin, and the illumination was bright enough for photographs of ground detail to be obtained'. Nonetheless, some serious damage was inflicted on Turin's western districts and a line of devastation also ran from the north-west to the south-east, with Fiat's Steelworks and Lingotto factory suffering direct hits. That night also saw a second Italian target attacked with a test run of 4,000lb 'specials' on the port of La Spezia. Three out of the four PFF Lancasters dropped their bombs, which had proximity fuses causing them to explode between 200ft and 600ft in order to widen the blast damage, especially to the roofs and windows of factories and residential properties.

Ten days later, Bomber Command mounted its joint attack against a German and Italian target, namely Cologne and Milan, and four Lancasters dropped proximity-fused bombs on La Spezia again. None of the ten PFF Lancasters carried H2S, which therefore allowed a comparison to be made on the device's usefulness as an aid for target-marking given it had been used on the previous operation to Italy. Milan was also a logical choice for a comparative investigation of H2S because the city had suffered little bomb damage since the attack on 24/25 October 1942, so new devastation could be more easily identified. The attack saw the Pathfinders, having identified the aiming point visually, drop red target-indicators (TIs) for the main force to concentrate its bombing. This attack, and those against Italy during the forthcoming summer, would be notable for the use of vividly coloured target-markers. In the event, though the PFF's timing was poor, causing the target-marking to be spread over half

an hour, enough TIs had been dropped to allow for a concentrated attack to develop. The city centre, and urban area to the north of it, became a mass of flames, the glow of which could be seen for 100 miles on the bombers' return flight – no doubt a consequence of a large number of incendiaries (157 tons) having been dropped. Milan's light flak had been reinforced, and they sometimes cooperated by 'hose-piping' their fire at the apex of the searchlight cones, but this in no way compared to Cologne's air defences. Italian night-fighters seemed marginally more effective, with a CR.42CN attacking a 101 Squadron Lancaster, injuring both gunners and causing the pilot to dive rapidly to extinguish the flames. 232 Squadriglia would claim three Lancasters, but these remain unverified. Bomber Command records claim that only two aircraft were lost, a consequence of terrible luck rather than the Regia Aeronautica's night-fighters, with the commanding officer of 103 Squadron, Sqn Ldr W. H. Powdrell, hit by incendiaries dropped from another aircraft and a 207 Squadron Lancaster suffering an engine fire that caused it to crash near Le Creusot in eastern France, having flown on fire for some 15 minutes.

Italian operations thereafter ceased as Harris focused on the battle of the Ruhr. But the April moon period saw two heavy attacks finally made on La Spezia, the port having been added to the Italian target list on 29 January because of pressure from the Admiralty. The Air Staff on 16 February had, of course, ruled that La Spezia was normally after Milan and Turin in importance, but should major Italian naval units concentrate there then it assumed greater priority. This had happened already because British and American bombers based in the Mediterranean had made Naples and Taranto untenable for Italian warships, and PRU (Photographic Reconnaissance Unit) sorties over La Spezia in January and February had revealed three Littorio-class battleships, two heavy cruisers and other small naval vessels had gathered there. Henceforth, Bottomley asked Harris to undertake heavy attacks on La Spezia in a carefully worded letter on 20 February, which deliberately placed less emphasis on the warships and instead drew the C-in-C's attention to its shipbuilding yards, arsenal, torpedo factory, submarine base and oil storage tanks. This had been done because the Air Ministry wanted to ensure Harris had no wriggle room to not undertake these heavy attacks, given his often-stated dislike for bombing ships in harbour. The Air Staff noted that Harris disliked the Admiralty's request for advance warning of an attack so that submarines could be placed outside La Spezia's harbour ready to torpedo the Italian battleships should they attempt to flee. This requirement meant admirals were once again dictating Bomber Command's tactics, which was something he hated. Consequently, on 4 March Harris submitted a formal protest to the Air Ministry: he would not give a 12-hour warning owing to the possibility of changing weather conditions. Attempts at bombing the *Scharnhorst* and *Gneisenau* at Brest, he further argued, had shown the pointlessness of attacking large naval units in harbour. 'The project of bombing La Spezia is ill-advised and inconsistent with agreed policy as to the proper employment of our Bomber Force,' Harris concluded, representing 'one of a number of such proposals for diverting effort from our main objective, Germany'. Though the Air Staff were somewhat sympathetic on avoiding unnecessary 'diversions' away from Germany, Bottomley replied by reminding Harris that bombing La Spezia conformed to paragraph three of the Casablanca Directive, and had to be undertaken.

Loyally following his orders, Harris sent his bombers to La Spezia on 13/14 April and again five nights later. The aims were to devastate the naval base and dockyards, mine the harbour entrance (eight aircraft) and bomb the battleships (16 aircraft). The first attack saw damage to the town north and west of the docks, and to the port itself, where 5 acres of storehouses were completely gutted. But perhaps the most interesting feature of this operation happened inadvertently, as three aircraft had landed in North Africa because of flak damage or technical problems – the first time this had happened. In so doing, it resurrected the idea of 'shuttle' raiding, which Harris had comprehensively squashed back in November 1942. But in April 1943, MAC tried again, and informed the Air Ministry they hoped these

bombers would attack La Spezia on their return. This showed how operations to Italy, as Harris had suspected, often suffered ‘mission creep’ owing to the pernicious demands of senior commanders in the Mediterranean. The Air Ministry took a more rounded view, however, with Bottomley informing Harris that short hours of darkness might well compel Bomber Command to undertake ‘shuttle’ operations, ‘even if only on a small scale’. Harris remained unconvinced but cooperative, and he conducted two such attacks in June and July.

The second operation to La Spezia saw Harris send 173 Lancasters – including 3 Group’s Bristol-Hercules powered Mk IIs – and seven H2S-equipped PFF Halifaxes to undertake the same tasks as before. Some 80 per cent of the bombing occurred within 3 miles of the aiming point, and considerable destruction was done throughout the town centre and built-up area. There were many explosions, including ‘a large orange affair’ that signified an ammunition dump blowing up, and Italian authorities described how the quayside had been ‘turned into a heap of rubble’. This second attack proved more damaging to the dockyard than the first, with direct hits destroying both the ‘human torpedo’ factory and sinking a 2,000-ton destroyer.

Yet behind the scenes, the Mediterranean theatre continued to cause friction. In late April, Harris railed against losing three Wellington squadrons to North Africa, saying this represented ‘over-insurance in what is admittedly a secondary theatre of war’ that prejudiced ‘our first strategic bombing objective’ of Germany. ‘Is there no end to this fatal process?’ he complained to Portal. The CAS responded by simply telling his errant subordinate ‘to accept the decision’; it was not ‘a case of failure to recognise the needs or the importance of Bomber Command operations but of balancing conflicting claims to the available resources’, especially as MAC remained weak in night-bomber strength. Underpinning this discord was the imminence of Operation *Husky* – the Anglo-American invasion of Sicily – and the Air Staff had already been considering Bomber Command’s precise role in supporting it. After all, *Husky* was precisely the sort of major amphibious operation that the Casablanca Directive had stated would require the support of Harris’ force. Yet the problem remained the short summer nights encountered by bombers operating from UK bases during mid-July. On 24 May, Arthur Tedder sent the Air Ministry *his* solution. Stressing fervently a wish for Bomber Command’s support during *Husky*, the head of MAC proposed that, as the short nights meant Bomber Command were unable to attack Italy, they should instead be sent as a temporary detachment to North Africa to carry this out. For Tedder this would stiffen his bomber force, which remained limited by range, size and deployment on tactical targets in Sicily, and allow MAC to bomb distant targets in northern Italy. Moreover, Lancasters based in North Africa opened up the possibility of mounting heavy attacks on targets in southern Italy too, such as Rome and Naples. In essence, Tedder remained ‘anxious’ that during *Husky* ‘no part of Italy should be free from the threat of bombing’. But this idea was soon turned down; indeed Bottomley rubbished the proposal on the grounds that it would ‘have little effect’ on *Husky*. Moreover, the DCAS also viewed Tedder’s proposal as an unnecessary diversion of Bomber Command’s aircraft from the battle of the Ruhr.

Yet, as a possible compromise, Bufton discussed with the SASO at High Wycombe, Air Vice-Marshal Robert Oxland, the possibility of Bomber Command making daylight attacks against northern Italy. Despite personal misgivings, Oxland explained that the C-in-C had explored ways in which this could be done. The best option (or least worst) necessitated the bombers using a wide route across the Bay of Biscay on their return in order to avoid encountering the Luftwaffe over northern France and the Channel in the daylight of a summer morning, but even this tactic had the drawback of only being available for a few operations owing to the loss of surprise, which meant heavier casualties would likely occur. But overall Harris had no wish ‘to embark on this project at all’.

Having seen the unpalatable alternatives of a temporary detachment in North Africa or the risky daylight raids to Italy rejected, Harris perhaps sensed he needed to do something.

In an ironic twist, he fell back on the 'shuttle' raid option by undertaking Operation *Bellicose* in June. This saw Lancasters bomb the Zeppelin Works at Friedrichshafen on 21 June, which owing to the summer nights and its location on the Swiss–German frontier meant a landing in North Africa. Three nights later, the 52 aircraft bombed La Spezia on their way back to the UK. Despite clear weather, the PFF's green TIs were still misplaced wide of the aiming point, but a large fire from oil storage tanks hit in the dock area acted as one giant 'illuminating flare'. Many Lancasters were therefore ordered to bomb 500 yards north of this, though wireless interference prevented a number from receiving this signal. Though small-scale, the attack caused useful damage to the San Vito Arsenal and Armament Works and brought Tedder's gratitude. Harris' reply was surprisingly conciliatory: he hoped to 'repeat' the operation to cause more 'equally unsatisfactory results to the Axis'.

Supporting *Husky*, 11–24 July 1943

Despite the rebuffing of Tedder's proposals, Bomber Command still had to participate in the *Husky* air plan. This had stated MAC's medium bombers were to attack tactical targets – airfields, troop concentrations and gun positions – in Sicily, and the heavy bombers of the US Ninth Air Force were to bomb the ports, cities and industries of southern Italy, especially Naples, Messina and Reggio Calabria. For Bomber Command, though the long daylight hours meant its contribution to *Husky* could in no way be as extensive as that seen during *Torch*, Harris still made a number of varied operations against northern Italy, which included an area attack, low-level precision strikes and a 'shuttle' operation.

The invasion of Sicily began on 10 July, and Bomber Command was to operate against Turin the following night, but weather forced a late cancellation. Instead, on 12/13 July, Harris sent 295 Lancasters of 1, 5 and 8 Groups to bomb the home of Fiat, hoping the problem of the short hours of darkness would be neutralised by the long return route across France to the Bay of Biscay and heading back to the UK via the Southwest Approaches. But it proved too much of a gamble with a loss rate of 4.4 per cent (13 aircraft) – considered high for an Italian target – caused by either fuel starvation or German fighters over France. The long route of nearly 2,000 miles meant that once the Brest peninsula and Channel had been reached, the British bombers were dangerously exposed in the early-morning sunshine.

A vertical photograph of a damaged and smoky Turin after Bomber Command's heavy attack on 12/13 July 1943. The operation was risky, given the short hours of darkness, and returning British bombers were vulnerable to the Luftwaffe's day-fighters based in northern France. But Harris was forced to take the risk owing to the wider need of supporting the *Husky* landings on Sicily. Turin's rivers, the Dora Riparia (shown here) and the Po, illuminated by moonlight proved excellent navigational aids for RAF bomb aimers to ascertain the specific areas/targets within Turin. (IWM C 3607)



There the Luftwaffe claimed a number of aircraft, including 44 Squadron's famous wing commander, J. D. Nettleton, a recipient of the VC for leading the daylight attack on Augsburg in April 1942. Investigating the reason why 5 Group had suffered particularly high losses, Air Vice-Marshal Cochrane of 5 Group concluded that crews' poor timekeeping had led to them 'being late clearing the [French] coast and [thereby] meeting fighters [on their return]'. The homebound journey was in fact the denouement of an altogether difficult operation. On the outbound route, the bombers had endured severe icing, cloud up to 23,000ft, and thunderstorms near the Alps, which caused some to abort and others to be thrown off course. A 207 Squadron Lancaster piloted by Plt Off. H. Badge strayed into Switzerland, where it was shot down by local flak, crashing into Mount Le Grammont, whilst an aircraft from 467 Squadron was also hit by Swiss AA-gunnery, causing it to crash into high-tension cables. The operation saw a mixed performance when it came to the bombing. Accurate initially – particularly concentrated around the banks of the Dora Riparia, causing heavy damage to the Fiat Steelworks and State Arsenal – the daytime reconnaissance sortie later reported 50 fires still raged throughout northern Turin. Yet the main force's poor timekeeping, owing largely to the weather *en route* which had disjointed the bomber stream, saw the target-markers having burnt out once these latecomers had arrived. As a result, the final part of the attack was scattered in the countryside north of Turin, and from the 126 aircraft attacking during this phase only 20 bombed within 3 miles of the aiming point.

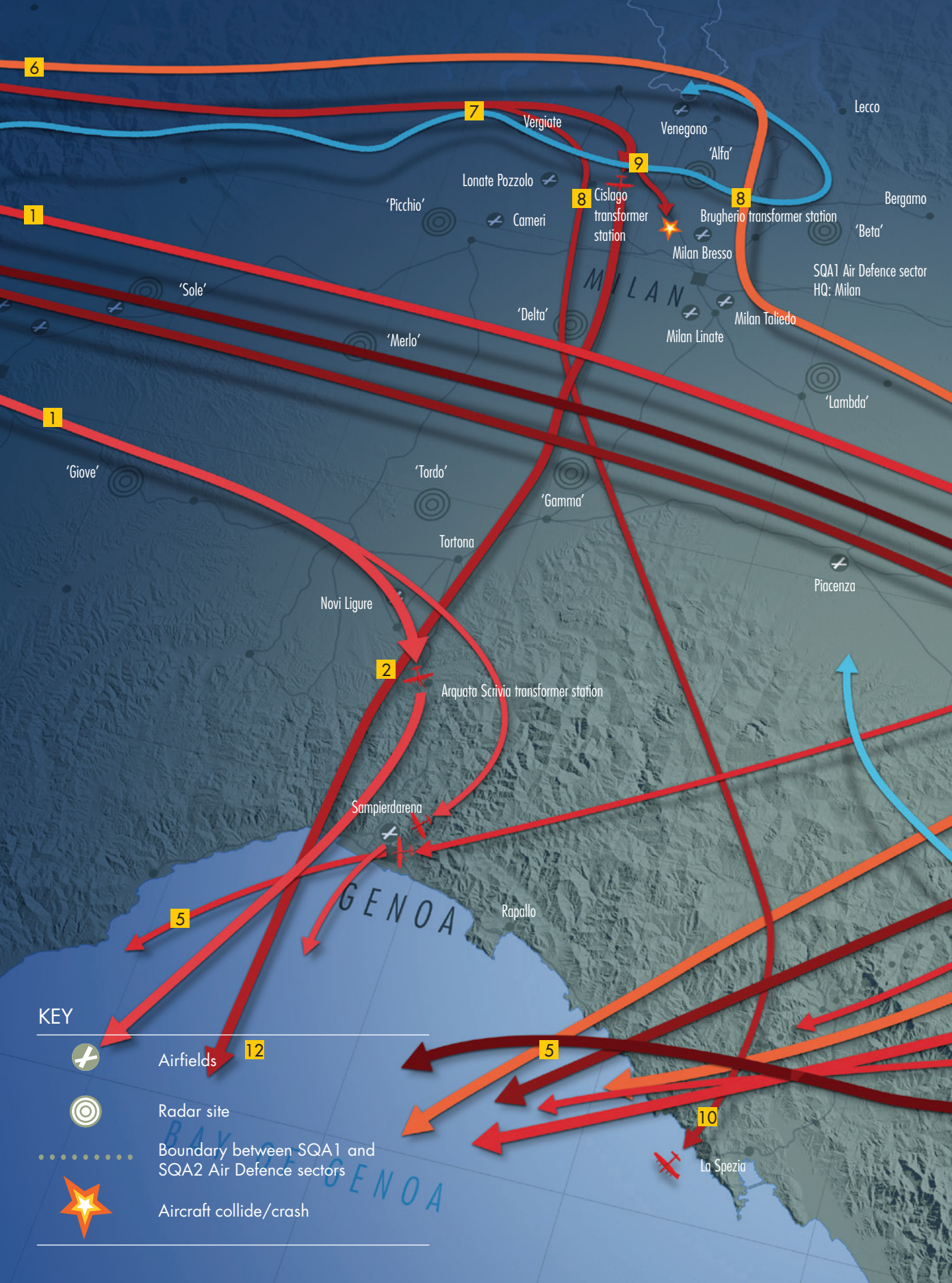
For Harris, the operation's higher losses had been all too predictable, for he had always insisted operations to northern Italy could only be safely undertaken after 16 August. Though he continued to support *Husky*, Harris did so only by launching 'special operations'. On 15/16 and 16/17 July, Harris sent small numbers of Lancasters to bomb from low level a number of electrical transformer stations – these evidence of the considerable electrification of Italy's railways under Mussolini's regime during the 1920s¹⁰ – in northern Italy because 'an interruption of the supply of electrical power to Italian railways', 5 Group was told, 'would have a considerable effect on the movement of troops southwards towards Sicily'. The first attack saw 24 aircraft, comprising experienced crews from 9, 50, 61, 106 and 617 Squadrons, aim for the transformer stations at Arquata Scrivia, San Polo D'Enza, Reggio Emilia and Bologna. The following night, 18 Lancasters from other 5 Group squadrons were sent to bomb those at Cislago and Brugherio. For some, the experience of this operation was excitement. Australian rear-gunner Tom Simpson recalled:

We screamed across France at practically zero level, climbed like a bat out of hell to get over the Alps, and then screamed down on to St Polo and completely obliterated the unfortunate power station without seeing a single aircraft or a single burst of flak.¹¹

Meanwhile, on 10 July, Tedder had indicated to Portal that 'should the next week's [tactical air] operations go well, I have been considering possibility of staging really heavy blows at, say, three vital centres in Italy'. This involved putting the entire B-24 Liberator force on Naples, the B-17 Flying Fortresses against Rome, and Harris' Lancasters making a 'shuttle' attack against northern Italy. 'Feel moral[e] effect of such operations might be vital', the head of MAC emphasised. The operations went ahead, though not in complete unison. American bombers attacked the marshalling yards in Naples on 17 July and those in Rome two days later, thus disrupting the railway link between the two cities and preventing the movement of the Hermann Göring Panzer Division to southern Italy for several days. As for Bomber

10 Italy lacked coal, but generated electricity through hydroelectric power stations in the Alps that powered many of its main railway lines.

11 Quoted from J. Nichol, *Return of the Dambusters*, HarperCollins (2015), p.34.



The low-level attack on the transformer stations

15/16 July and 16/17 July 1943

EVENTS

15/16 July: Arquata Scrivia, Reggio Emilia, San Polo D'Enza and Bologna

- 1 2219–2235hrs: 24 Lancasters take off from 5 Group's bases. Their targets are four transformer stations at Bologna, San Polo D'Enza, Reggio Emilia and Arquata Scrivia, to be attacked at 800ft–2,700ft. The Halifaxes of 8 and 4 Groups are to bomb the Peugeot Works at Montbeliard. At 0200hrs the Lancasters aim for the southern tip of Lake Bourget, fly over the Alps, then head for targets in four gaggles of six aircraft. Bombing is to be controlled by the flight leader. Bomb load is 7,000lb: mixed loads of 1,000lb and 500lb GP HE bombs and 4lb incendiaries.
- 2 0250–0448hrs: bombing commences. At Arquata Scrivia, 617 Sqn's target, several direct hits are scored and one building blows up. An ammunition train is set on fire near the transformer station, causing a huge explosion. Intense light flak damages three Lancasters but is silenced by strafing; the transformer station is also strafed. Intense light flak is also encountered at Reggio Emilia. The attack here is much less successful. Only two aircraft of the six bomb the target; the flight leader crashes and bombing is not coordinated. At Bologna, bombs cause several blue flashes. Some light AA is again silenced by strafing. At San Polo D'Enza, targeted by a further six aircraft from 617 Squadron, there is one direct hit and numerous bursts in the target area which cause blue flashes, flames and smoke. Here, the opposition is only slight but AA guns help to bring down a damaged Lancaster. Two Italian night-fighters are seen but make no attacks.
- 3 0402hrs: two Lancasters collide and subsequently crash; Fg Off. M.R. Head's (9 Sqn) at Mirandola and Flt Lt C.H.J. Hunt's (50 Sqn) at Traversetolo, having also been fired upon by light flak from San Polo D'Enza. Loss rate for the operation now stands at 8.3 per cent.
- 4 Two aircraft (both from the Reggio Emilia force) fail to find transformer station; instead bomb Genoa docks and Ferrara marshalling yards. A 617 Sqn Lancaster (from the Arquata Scrivia force) makes an accurate attack on a military barracks in Genoa despite an engine failure.
- 5 The Lancasters fly over Bay of Genoa and head towards North Africa. The damage to three transformer stations showed that low-level bombing was successful, but greater accuracy might have been achieved without ground haze.

16/17 July: Cislago and Brugherio

- 6 2216–2232hrs: 18 Lancasters of 5 Group take off, divided into two sections and controlled by its leading aircraft, to attack transformer stations at Cislago and Brugherio at 600ft–3,000ft. Each aircraft carries 6,900lb of bombs: 500lb GP HE bombs and 30lb and 4lb incendiaries. At 0200hrs the Lancasters, from the southern tip of Lake Annecy, cross the Alps. The bombers then head in the direction of Varese.
- 7 0230hrs: the Cislago force encounters an Italian night-fighter. This is one of the few Do 217-2s from 235 Squadriglia (based at nearby Venegono airbase), which, in the words of the raid report, 'caused considerable trouble'. The night-fighter first attacks the 467 Sqn aircraft of Fg Off. R. Carmichael RAAF, killing the navigator and wounding the rear gunner. Seriously damaged, the Lancaster loses the formation, alters course, and heads towards the Bay of Genoa.
- 8 0247–0445hrs: bombing commences. At Cislago, the remaining eight Lancasters attack at low level. They unload 91 500lb GP bombs, 32 30lb incendiaries and 720 4lb incendiaries, which cause violent explosions and fires within the target area. Slight heavy and light flak is fired but does little damage. At Brugherio, the moderate flak is also ineffective. The formation leader, Wg Cdr F.C. Hopcroft DFM, bombs the target but then instructs the other aircraft to bomb the alternative of Reggio Emilia due to ground haze over the target.
- 9 0250hrs: the Italian Do 217 night-fighter finds and attacks another British bomber. This is the 207 Sqn aircraft of Plt Off. L.E. Stubbs, which is shot down and crashes between Cislago and Novara. Six of the crew perish and one is taken prisoner.
- 10 0337hrs: the Lancaster damaged earlier near Cislago drops its bombs on La Spezia, starting two large fires. Heavy predicted flak is encountered.
- 11 0403hrs: no flak is encountered at Reggio Emilia, but this is attacked by only two aircraft; instead, the majority of the formation (six aircraft) bomb a wireless transmitting station at Parma in error.
- 12 0500hrs: the attacking aircraft leave Italy over the Ligurian coast. Two are hit by heavy flak from Genoa, but they and the rest of the Lancasters fly on to the North African landing grounds. Short of fuel, a 467 Sqn aircraft (Fg Off. H.B. Locke RAAF) crash-lands and catches fire.



Command, the attack on Turin was part of Tedder's plan for a multi-pronged effort against Italian morale, but Harris had a bolder stroke in mind.

After the transformer station attacks, 5 Group's aircraft had proceeded to land in North Africa, which meant that from 17 to 24 July Bomber Command had 33 Lancasters there, including 12 from 617 Squadron. Given the duration of their stay, and the debate Harris had simultaneously opened back in the UK, it is reasonable to suggest these aircraft were being held in place ready for launching Operation *Audax* should it be sanctioned. This, it will be remembered, was the plan to kill Mussolini by bombing his office in the Palazzo Venezia and home at Villa Torlonia. Despite the original operational plan, there was nothing to say this operation could not be undertaken by the specialist 617 and 9 Squadrons upon their return to Britain. These squadrons were essential to this operation because it had to be undertaken 'just above the roof tops', as that gave 'the only chance' of destroying the two targets in Rome without inflicting 'much other damage' ('collateral' in modern speak). *Audax* was resurrected by Harris on 11 July because the Allied ban on bombing Rome was about to be lifted (to allow American bombers to attack the marshalling yards). The C-in-C no doubt wondered whether it was time to go for the jugular and kill Mussolini to precipitate Italy's collapse. The Italian 'sideshow' would then be over, Harris hoped, and Bomber Command could concentrate on finishing the Ruhr campaign and beginning the bombing of Hamburg. But Churchill, in agreement with Eden's view, turned down the proposal. The foreign secretary was sceptical about the chances of success and worried about 'the odium of knocking the older part of the City about and causing civilian casualties'. Evill therefore telephoned Harris to say that *Audax* 'is frowned on'.

With *Audax* ruled out, 5 Group signalled MAC on 24 July to say the Lancasters were 'urgently required and are to return tonight'. The haste was due to Harris needing all his best heavy bombers for the battle of Hamburg, which began that night. The aircraft took off and bombed the docks, basins, shipyards, oil storage depots, and torpedo factory at Leghorn. The 33 Lancasters found the target partially covered by cloud, but gaps in it allowed the bombers to attack the harbour area before continuing back to the UK.

Politicians' control: turning Bomber Command off and on Italy, 26–30 July 1943

Meanwhile, there had been developments in Rome. On 25 July, the Fascist Grand Council removed Mussolini from power, appointing Marshal Pietro Badoglio as successor. 'Now Mussolini is gone,' Churchill told Roosevelt the following day, 'I should deal with any non-Fascist Italian Government which can deliver the goods.' 'The goods' referred to an armistice, and the British government believed the Badoglio regime needed 'breathing space' to see if it could deliver peace. These developments affected Bomber Command directly, with Harris receiving an 'Immediate Most Secret' signal from the Air Ministry on 26 July that emphasised:

It is not Repeat not Cabinet Policy to increase attacks on Northern Repeat Northern Italy at the present time. Targets in Northern Italy should not therefore be attacked until further notice without prior Air Ministry approval.

A hiatus developed as the Allies waited on developments in Italy. But therein lay the reason for Bomber Command's Italian operations soon resuming. On 28 July, the Defence Committee discussed the lack of movement towards peace on behalf of the new government in Rome, and Eden therefore felt the War Cabinet's earlier decision to halt Bomber Command's attacks on Italy should be reconsidered. Resumption, the foreign secretary asserted, would 'make the prospect of Italy's dropping out of the war more favourable'. Surprisingly, Churchill disagreed,

believing Eden overstated the effects of bombing, and, if restarted, the Prime Minister argued, 'might interrupt a favourable [pro-Allied] trend in the feelings of the Italian people'. The discussion lay finely balanced between the two opinions and eventually a compromise was reached: two days would be given for Badoglio to 'deliver the goods'; should it not happen, then Bomber Command was to resume its operations to Italy.

Consequently, Portal instructed Harris to be prepared to 'heat up the fire' by bombing Italy on 30/31 July. This was to be a simultaneous assault on Turin, Milan and Genoa. Yet the strict control over bombing policy towards Italy remained all too clear, as Harris was also told that 'owing to possibility of rapid change in present political situation these attacks are subject to cancellation at short notice'. Bomber Command, as Churchill implied to Eisenhower, was clearly a tool of the politicians' brutal calculations and strategy:

We have not bombed Northern Italy for the last two days because we wanted to give them a taste of relief, but unless they formally ask for an Armistice in the immediate future, we intend to give them all manner of Hell.

By 30 July, the two-day deadline had expired, and Portal told Churchill that Bomber Command was ready to operate that night. The CAS also stated that should 'you decide to bomb Italian cities intensively', Tedder should be instructed to make it a combined bombing operation. The signal to MAC therefore oozed the philosophy of deploying strategic airpower to achieve political objectives:

Cabinet now have evidence of pledge by Badoglio to Germans to continue war and have given me instructions to resume bombing of Northern Italian cities tonight in order to intensify pressure on Badoglio for peace ... Suggest therefore that you pass above information unofficially to Eisenhower so that if military considerations permit he should instruct you to attack tomorrow targets calculated to increase pressure on [sic] Italian population on their Government for peace move possibly including previously authorised targets in Rome.

The CAS ended by asking the Prime Minister: 'May I have your instructions please?' An immediate – and unequivocal – reply came back quickly: 'Action as proposed.' 'All manner of Hell' was indeed about to be unleashed on Italy's unfortunate cities and population.

Mussolini's successor, Marshal Pietro Badoglio. Trapped between the Allies and the Germans, he continued the war as Hitler's ally for another five weeks, during which time northern Italy cities would be heavily bombed. (Getty Images)

The ten-day blitz on northern Italy, 7–17 August 1943

Following the decision to resume Italian operations, Bomber Command's third campaign against Italy endured a frustrating start. The 'treble-operation' against Turin, Milan and Genoa on 30/31 July – comprising 200 Lancasters – was cancelled owing to thunderstorms during take-off time. Frustrated, Churchill telephoned the Air Ministry on 31 July to see if it would be undertaken that night, and was told the weather had once again thwarted it. This was the pattern over the following week, with weather cancelling operations to Italy on at least four occasions. This was particularly frustrating because they were to be mounted simultaneously with heavy raids by American bombers on Naples and Rome. Evill reassured Tedder that Bomber Command would operate against northern Italy at the 'earliest practicable [moment]'.

That moment finally came on 7/8 August 1943 when 197 Lancasters, organised into three sections, attacked Turin, Milan and Genoa. Bomber Command's *Digest* noted that 'the number of aircraft employed was not large enough to produce extensive devastation', but that was hardly the point.



KEY



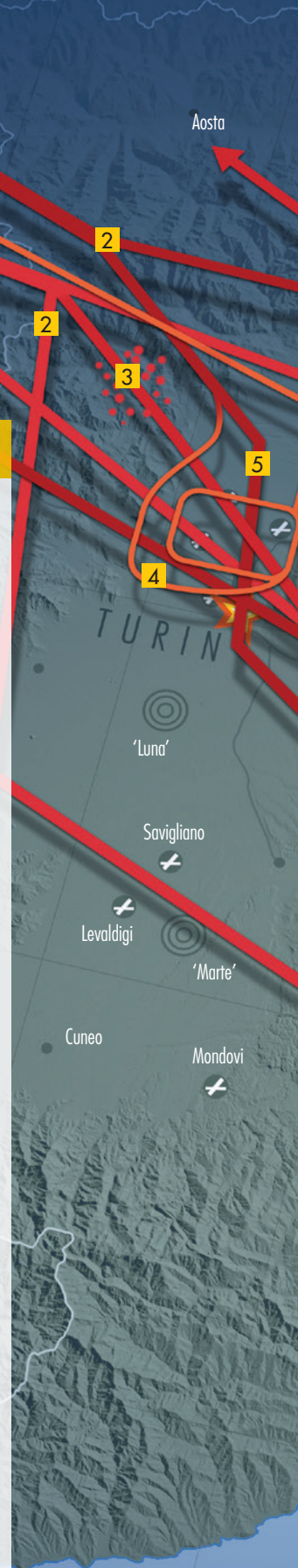
Airfields

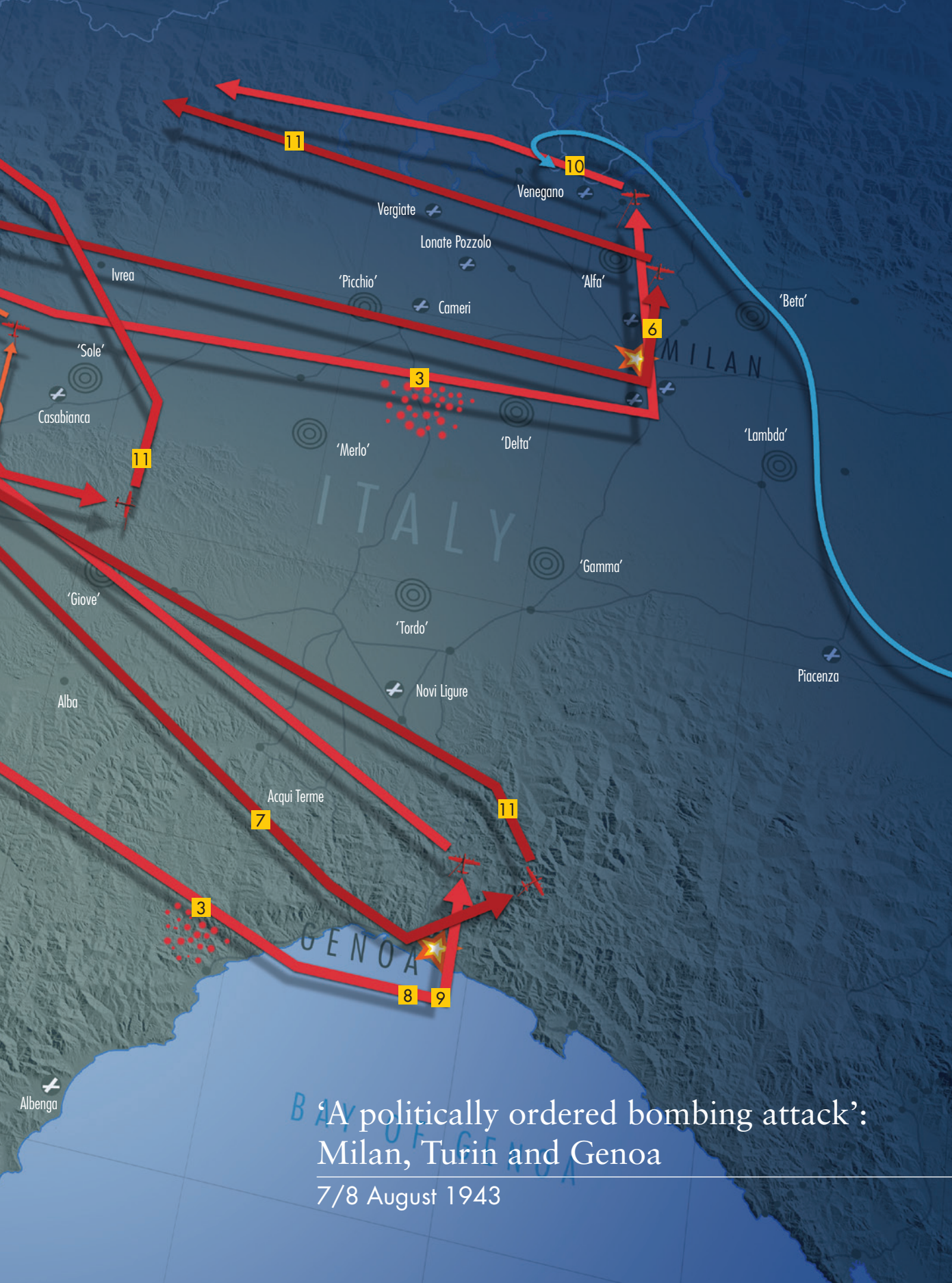


Radar site

EVENTS

- 1 2345–0030hrs: British heavy bomber formation arrives over the Alpine region of France. As a help to the main force, the Pathfinder Force aircraft drop route-marking flares (green) at the northern end of Lac de Bourget.
- 2 0045hrs: once over the Franco–Italian border, the bomber stream begins to divide and three groups of aircraft head towards their assigned targets.
- 3 40 miles from each target, the British bomber crews, as instructed, begin to drop packets of Window (one per minute) in order to ‘fog’ enemy radars.
- 4 0054hrs: the 83 Squadron Lancaster of Gp Capt. J. H. Searby – the Raid Commentator or ‘Master Bomber’ – begins to orbit above Turin, giving instructions to the PFF crews as they arrive at the target area. Broadcasting on the ‘Darky’ frequency, all crews were to listen for Searby’s advice and corrections. Blind-markers and illuminators drop their flares at 0058hrs (Z - 2).
- 5 0100hrs: Zero Hour over Turin. Eleven ground-markers, at 1-minute intervals, drop their flares up to Z + 11. Since the target was free from cloud cover, the Newhaven technique is adopted. This technique involved the PFF’s Blind-Markers using H2S to drop flares to illuminate the target area so the aiming-point could then be identified visually and marked by the following visual-markers. Meanwhile, 50 Lancasters of 1 Group, approaching from the north-west, commence the bombing of the city. This is centred in an area west of the aiming point between the River Po and River Dora, with bombing around the three aiming points of the State Railway workshops, the Royal Arsenal and city centre, all of which are damaged. All aircraft clear Turin by 0111hrs.
- 6 0111hrs: the blind-markers and illuminators commence the marking of Milan two minutes early, the Zero Hour being 0115hrs. Like Turin, the ground-markers visually identify the aiming point and keep it illuminated over the next 11 minutes for 50 Lancasters of 5 Group, spread over altitudes between 14,000 and 20,000ft, to commence their attacks and to also drop ‘special leaflets’ – a propaganda tool designed to force Italian capitulation. The bombing of Milan finishes at 0125hrs. Like the other targets, Milan contains flak defences that British bomber crews consider either ‘negligible’ or ‘inaccurate’, whilst searchlights become less active as the attacks develop. Milan’s defences do claim one aircraft – the 61 Squadron Lancaster of Sgt H. Halkier – which unluckily was seen to have been hit by the other bombers. The crew were buried in the Milan War Cemetery.
- 7 0059–0112hrs: those Pathfinder aircraft which have already marked Turin proceed quickly to Genoa to repeat the process.
- 8 0115hrs: Z - 2 and marking begins at Genoa. The attack begins three minutes early, as Zero Hour was supposed to be 0120hrs. Ground-marker aircraft continue to arrive over the next 16 minutes.
- 9 Aircraft from 1 and 5 Groups commence bombing of Genoa, which lasts until 0151hrs owing to main force ‘stragglers’. An exceptionally large explosion is reported by the aircrews as having occurred at 0147hrs.
- 10 0128hrs: one of the last 5 Group Lancasters to have bombed Milan encounters a twin-engined enemy aircraft at 20,000ft on the port-quarter. Rear gunner fires two bursts of machine-gun fire at 800 yards. Lancaster continues to fly straight and level, while enemy aircraft maintains its course and was soon lost to view. This was the only contact with the Regia Aeronautica during the three attacks.
- 11 0200hrs: having been instructed to all turn left on leaving the target, the British bombers begin their long return journey following the same route over the Alps and across France. Green route-marking flares are again dropped over the Lac de Bourget as a navigational aid. Luftwaffe night-fighters are active over France but fail to make contact with the returning bombers. For 1 Group’s Lancasters, being based in northern Lincolnshire, the entire trip is 1,740 miles.





A politically ordered bombing attack':
Milan, Turin and Genoa
7/8 August 1943

It had instead been important to simply drop *some* bombs on the three cities, however modest the tonnage, to lower Italian morale and force Badoglio to quit the war. This was clear from the operational plan that saw the attacks deliberately concentrated in both time and space, with the three major cities of northern Italy all bombed in less than an hour to drive home Italian helplessness in the face of British strategic airpower. Supporting this was the propaganda effort, with leaflets containing the messages 'The Government of Rome says the war continues' (front) and 'That is why our bombardment continues' (reverse). These were dropped in colossal amounts by 617 Squadron, simultaneously with that night's attacks, over many cities and towns throughout northern Italy. Despite the focus on morale, Italian radio admitted 'considerable' material damage had been done. The Ministry of Works, meticulously accounting every item of damage, provided final figures of L.130 million for Genoa and a colossal L.600 million for Turin.

Meanwhile, as the aircrews landed, Churchill's instruction to Eden about carrying 'forward' the war against Italy, with the bombing effort limited only by the weather, set in motion Bomber Command's final assault on Italy. Set to begin that night, 229 Halifaxes and Stirlings were to bomb Turin, but this was cancelled because of a poor forecast. Anxious to move on, Harris told Portal on 12 August that 'we are on the verge of a final showdown in the bombing war ... and [with] concentration on the main job we can push Germany over by bombing this year, but to do so we must keep diversions cut to the bone'. Implicit here was the need to wrap up the Italian commitment as quickly as possible. That night, Bomber Command began by making a huge double attack against Milan and Turin by 656 bombers, an operation designed no doubt with 'shock and awe' in mind. This was a maximum effort, heavily concentrated on Milan – the political centre of northern Italy and 'home' of the paramilitary *Fasci di Combattimento* – but with Harris' weaker aircraft, namely 3 Group's Stirlings, still used to attack Turin. It was, in the phrasing of the time, 'a substantial subsidiary attack', undertaken by those aircraft whose range 'was not great enough to reach Milan'; in other words, this dual effort was the only way Harris could use his entire force against Italy. Moreover, the operations commenced simultaneously at 0112hrs, and although the Milan attack took 17 minutes longer owing to the greater number of aircraft bombing the target, by 0147hrs Bomber Command had left two major cities in northern Italy burning furiously.

Overall, this mass attack came cheaply, with only five Halifaxes, two Stirlings and one Lancaster missing. One Stirling was piloted by Flt Sgt Arthur Aaron, whose aircraft was damaged by machine-gun fire that killed the navigator, wounded several others, and left Aaron with horrific injuries to his face, chest and right arm. The flight engineer and bomb aimer flew the damaged bomber to North Africa on three engines with no navigator and a pilot heavily sedated with morphine. Nonetheless, Aaron insisted on making the landing but, unable to do so, he wrote down (his shattered jaw meant he could not speak) landing instructions for the others to follow. Aaron died nine hours later, but was awarded the VC, and DFMs were awarded for the heroic efforts of the wireless operator and flight engineer. The crew's troubles came not from an Italian night-fighter but from an over-zealous rear gunner; it was, in modern speak, a 'blue-on-blue' incident.

The following two nights saw only Lancasters despatched to Milan, numbering 140 and then 199 aircraft. The operation on 14/15 August was a split effort completed in 18 minutes, which saw 109 aircraft bombing the city centre and the rest conducting a low-level strike on the Breda Armament Works. The local authorities noted 'impressive fires' took hold in the city centre, causing a complete breakdown of local transport, and the smoke impeded later reconnaissance flights. At the Breda Works, three PFF aircraft dropped flares right on the target and nearly all of 1 Group's Lancasters dropped their 7,600lb HE bombloads from around 5,500ft right in the centre of the brightly illuminated target. Direct hits were observed, though some bombs fell on the adjacent Pirelli Works, and both industrial sites were left under smoke columns that rose to 5,000ft.

Notwithstanding a meteorological forecast that predicted Milan might be covered by medium cloud up to 18,000ft, Harris pressed on the following night. He could do so because the PFF's new marking technique, skymarking,¹² could be used if the forecast proved correct. In the event, Milan was clear – conditions here often seemed better than over misty Turin – and bright moonlight enabled the visual identification of the aiming point. Thereafter, a well-placed attack inflicted considerable damage on the city centre in just 20 minutes. Large fires, with smoke rising to several thousand feet, was accompanied by explosions, and a huge one (a gasworks had been hit) was seen by crews already re-crossing the Alps.

Bomber Command's *Digest* described the cumulative effects of the four attacks on Milan:

[V]ery heavy damage has been done in spite of the extremely non-combustible characteristics of Italian houses. It is also clear from many sources that the disorganisation and panic produced in the population has been tremendous. All forms of transport seem to have broken down and mass evacuation, largely on foot, is reported. Many fires seem to have continued unextinguished [*sic*] for days.

Daylight photography, analysed at the Central Interpretation Unit (CIU) at RAF Medmenham in Buckinghamshire, revealed the extent of the devastation to Milan, with 350 acres (44 per cent) of the central built-up area and 80 acres (14 per cent) of the suburbs in ruins, though for obvious reasons it was pointed out 'the Cathedral appears to be intact'. But other public buildings and utilities suffered considerable damage, with the La Scala Opera House unfortunately hit. Though primarily a target for morale reasons, in a vindication of the effectiveness of the 'catch-all' technique of area bombing, Milan's industries had suffered grievously: Alfa Romeo, Isotta Fraschini,¹³ Pirelli, Breda, Bianchi-Edoardo, SAFAR and Tallero all suffered serious damage. As the local authorities stated, all factories were 'at a standstill' because of the disruption to railways and electricity, gas and water supplies.

With Milan reeling after three aerial bombardments in four nights, Harris switched back to Turin. On 16/17 August, the city was attacked by 154 heavy bombers, comprising 103 Stirlings and 14 Lancasters from 3 Group, with 37 PFF Halifaxes marking the target. Given it was to be followed by a huge attack against the same city by 611 heavy bombers on 19/20 August, it was clear the British aimed to break the morale of industrial workers and working-class women, which was already shaky. This aim can be inferred from the message Harris sent to his Group commanders on 17 August. Containing an immediate assessment of the attacks against Turin during August, the C-in-C stated the buildings' construction made it a difficult city to burn, but nonetheless 'the desired object of still further devastating the shattered remains of Italian morale' had been achieved. Overall, this reads like a briefing for Harris' Groups to administer a fiery *coup de grace* on Turin, especially as the old city centre, described as 'a small rectangular nucleus of the Roman and medieval town with very narrow streets and a population density of over 140 per acre', was to be the aiming point. This area had been selected because Harris probably aimed to create a Hamburg-style 'firestorm' in Turin's most burnable part. Fortunately the operation never took place, cancelled supposedly by the weather, and so the 16/17 August operation – of moderate intensity – was Bomber Command's last attack on Italy because the Prime Minister had given the order 'to lay off the Italian cities'.

12 This used hooded flares that floated in the clouds, as ground markers would be concealed in thick cloud.

13 This firm saw the destruction of 300 licence-built Daimler-Benz aero-engines and another 400 placed in underground storages damaged by incendiary bombs.

The 'great prize' of Bomber Command's strategic air campaign south of the Alps: Italy's defeat. Here the armistice is being signed at Cassibile, in Sicily, on 3 September 1943. The contribution of Bomber Command to Italy's capitulation should not be overstated, yet evidence does suggest that it did contribute to the hardship, misery and war-weariness of the civilian population in Turin, Milan and Genoa. It is, perhaps, the nearest airmen have got to fulfilling Giulio Douhet's theory of bombing a country into capitulation. (Getty Images)



This had come about because of the behind-the-scenes diplomacy conducted between the Allies and Italians throughout August. Following tentative approaches in Lisbon and Tangier, which had led nowhere, Bomber Command had of course begun its final assault on northern Italy on 12/13 August. But a more serious approach developed when General Castellano, appointed the Commando Supremo's plenipotentiary, met two representatives of Eisenhower in Lisbon on 17 August. Castellano indicated unconditional surrender was acceptable but expressed concern over German reaction; the Allies nonetheless handed him the peace terms. Two days later, the parties had reached some form of agreement, and it seems likely that this diplomatic development, not 'weather over the Alps', accounts for the cancellation of the huge operation to Turin that night. Indeed, Sinclair cabled Churchill, away at the Quebec Conference, to specifically ask for instructions:

Recent attacks on Milan and Turin have been devastating. Ought we to pursue them or ought we to lay off Northern Italian cities until we see what comes out of Lisbon[?]

Within hours the Prime Minister had replied: do so 'till we see what happens'. But Badoglio, though recognising that ending the war invited the German occupation of Italy, saw the misery the bombing was causing the Italian population. By 24 August, the Italian home front was in a state of collapse: Fiat workers were on strike, and unrest was becoming more politicized and widespread. Consequently, Castellano headed back to Sicily, authorised by the Italian government to proceed. On 3 September, near the village of Cassibile, south-west of Syracuse, the armistice was signed. Though Italian collapse stemmed from a number of reasons – military setbacks, the loss of Sicily, imminent invasion and increasing economic hardship – Denis Richards is correct to conclude that Bomber Command 'had played its part by showing clearly what was in store for Italy if surrender were rejected, or long delayed'. The planned heavy attack on Turin was clear evidence of that.



AFTERMATH AND ANALYSIS

Bomber Command's achievement against Italy was achieved at light cost: from February to August 1943, Harris' force had launched 2,518 aircraft against Italy, dropping 5,971 tons of bombs but losing only 45 aircraft. In contrast, the same period had seen 38,729 aircraft drop 106,535 tons of bombs on Germany in return for a monumental 1,669 bombers missing. By any admission, Bomber Command's contribution to victory over Italy had been both cheap and effective, in the face of Italian air defences that had never really challenged the British bomber crews.

There was, however, a sequel. With German forces moving into the north and the Allies poised to land in southern Italy, on 18 August Churchill told Portal that 'in view of what we have said about directing bombing as much as possible on the Germans and the consequent restriction of targets that may follow, it would seem that places like Bolzano would form convenient outlets for our attacks'. Specifically, these would be on the city's transformer stations (the type of target attacked by Bomber Command on 15/16 and 16/17 July 1943) made during the August moon period to hinder German railway traffic along the Brenner route. Yet the Air Ministry's Intelligence Staff soon concluded it would only bring a very temporary dislocation because the Brenner line could be supplied with electric power within hours from four hydroelectric stations located around Bolzano and Trento. The Italians could also use mobile sub-stations and steam locomotives. Portal therefore soon informed Churchill that 'destruction of the target suggested would not have the far reaching effects claimed'. Backed by the COS, the CAS instead recommended that 'the bombing of German communications in Italy, carried out by the Mediterranean Air Force, will suffice to maintain pressure on Italy for the next few days', and, 'if General "C[astellano]" accepts the terms, Bomber Command should be laid off Italian cities'. Once again, here was evidence of the tight control exercised over Bomber Command's attacks on Italy, which meant Bolzano joined Rome, Florence, Venice and Verona as prohibited targets. Churchill's recommendation about bombing Bolzano had come at a delicate stage in the armistice negotiations, and ultimately it was considered preferable to keep Bomber Command well away from Italian cities.

The ruins of one of the Fiat factories after the RAF's heavy bombing of Turin on 12/13 August 1943.

Extensive damage was done to the city's industrial districts in the north and north-east, and also to the area lying between the Po and main railway station. All of the Fiat Works were damaged, with eight suffering serious devastation affecting the production of aero-engines, steel forgings, tank armour and railway rolling stock.

(Getty Images)

Instead, when it came to attacking the railways of northern Italy, Harris' force was deliberately confined to targets on the French side of the border. On 27 July, Portal presented a paper to the COS on this operation. Far-reaching in its scope, the Air Staff had examined novel ways of destroying railway communications, by causing landslides on to the lines, blowing dams to wash away sections of the track, or destroying viaducts, tunnel entrances and marshalling yards. With regards to the latter, the most important target was the Lingotto marshalling yards in Turin, because targeting them would affect transportation along the railway line from France into Italy (via Mont Cenis), damage the adjoining Fiat Works manufacturing aero-engines (which, Portal stressed, was 'in line with our G.A.F. policy'), and 'react seriously upon Italian morale'.

Effort directed against Italian targets and Bomber Command's losses					
Phase	Target/Date	No. aircraft despatched	No. aircraft attacked	Bombs dropped (in tons)	No. aircraft missing
I	Italian raids: June 1940–April 1942 (26 attacks)	416	275	300 (approx)	17
II	Genoa: Oct–Dec 1942 (6 attacks)	637	541	950	9
	Turin: Oct–Dec 1942 (7 attacks)	1,015	823	1,840	13
	Milan: Oct–Dec 1942 (2 day/night attacks)	159	113	281	9
	Savona: Oct 1942 (1 unintended attack)	n/a	10	14	0
III	Turin: 4/5 February 1943	188	156	327	3
	Milan: 14/15 February 1943	142	122	269	2
IV	La Spezia: 13/14 April 1943	211	193	505	4
	La Spezia: 18/19 April 1943	178	164	433	1
	La Spezia: 23/24 June 1943	52	49	120	0
V	Turin: 12/13 July 1943	295	277	789.9	13
	Transformer Stations: 15/16 July 1943	24	23	70.7	2
	Transformer Stations: 16/17 July 1943	18	17	51.9	1
	Leghorn: 24/25 July 1943	33	33	83.9	0
VI	Milan, Genoa, Turin: 7/8 August 1943	73, 73, 74	72, 72, 74	197.4, 166.3, 192	2, 0, 0
	Milan, Turin: 12/13 August 1943	504, 152	481, 144	572.8, 118.8	4, 2
	Milan: 14/15 August 1943	109	106	107.3	1
	Milan: 15/16 August 1943	199	193	214.2	7
	Turin: 16/17 August 1943	154	137	127.5	4
Totals:	55 (attacks on Italy)	4,706	4,075	7,731.7	94

But more widely, Portal concluded that 'the total immobilisation of railway traffic on all three routes for a long period would be extremely difficult to achieve and would involve a large and continuing commitment'. He recommended additional aerial photography should be taken of the Mont Cenis and Brenner routes, and the other railway lines into north-east Italy. This was duly done, and the plan for cutting railway lines into northern Italy developed in August 1943. By early September, American heavy bombers in the Mediterranean were assigned the three eastern routes, cut by repeated attacks on the marshalling yards at Castelfranco and Mestre. For Bomber Command, with Turin and its important marshalling yards now deemed as being 'off-limits', had now to block the three western railway lines leading into north Italy by launching low-level attacks on the Antheor viaduct (Riviera route); destroying the Bissorte Dam using the 'bouncing bomb' and the Modane marshalling yards by night (Mont Cenis route); and launching another low-level strike on a viaduct, namely the one at Avisio (Brenner route). The last target was soon rejected as tactically impracticable, whilst the Bissorte Dam, considered the most effective way of cutting the railway via Mont Cenis, was also dismissed because it would have led to the deaths of French civilians.

Nonetheless, the rest of Operation *Puff* was soon put into effect owing to the Allies' military crisis in southern Italy, when, as Tedder recalled, 'it even seemed that our invading troops would be forced back into the sea'. With the Salerno bridgehead precarious, maximum air support was required to hold up German reinforcements. On 16/17 September, three groups of American B-24 Liberators and 130 B-17s, based in North Africa and the UK respectively, attacked the railway targets in north-west Italy. Meanwhile, Bomber Command bombed Modane's marshalling yard and the Antheor viaduct with 345 heavy bombers and 12 aircraft from 617 and 619 Squadrons respectively.



Both attacks were unsuccessful: the viaduct was untouched, whilst the aiming point in the marshalling yard was missed. An all-Lancaster force of 313 aircraft returned on 10/11 November, and a more successful attack was delivered. The target and rail lines were repeatedly hit, causing no trains to pass for 27 days after the attack. Few houses remained standing in the town, and the entire area, a French report noted, resembled 'front line villages of the First World War'. 617 Squadron made two further attempts on the Antheor viaduct – on 11/12 November 1943 (134 bombers simultaneously attacked the Cannes marshalling yards) and 12 February 1944 – but more disappointment followed. On the former raid, a number of Lancasters mistook a nearby bridge for the viaduct and damaged that severely, but left the target intact. The third attempt was unsuccessful because the viaduct now had a considerable number of flak guns and searchlights, and the latter dazzled the aircrews so completely they were unable to identify the viaduct itself.

In drawing some conclusions about the strategic bombing campaign against Italy, three key questions need to be addressed. First, what did it achieve with regards to the wider war in the Mediterranean? Little needs to be said here about the raids before autumn 1942, for these were too small to have caused any inconvenience to the Axis war effort in the area. But all this changed in autumn 1942, when Allied offensives in North Africa required Bomber Command to attack Genoa – a vital port from which sailed Axis reinforcements and supplies. In May 1943, Trenchard sent Harris a lengthy report by Air Vice-Marshal Arthur Coningham, long since transferred from 4 Group to the Mediterranean commanding the North-West African Tactical Air Force, which opined that:

[W]hen, after the battle [of Al Alamein] was won and the advance was taking place through Cyrenaica, hundreds of lorries, tanks and guns were found abandoned through lack of fuel it became obvious how successful strategical bombing had been.

Whether Harris was correct to then switch to Turin – the Admiralty thought not – remains open to question, but certainly Bomber Command's blitz on Genoa helped worsen the Axis supply situation in North Africa. Later on, the bombing of La Spezia, to coincide with the final weeks of the Tunisian campaign, damaged the Italian Navy's main base and kept its three most powerful warships firmly in harbour. Consequently, the Allied military leadership in the Mediterranean felt Bomber Command had an important role to play during Operation *Husky*, and Harris complied as best he could through bombing Turin to

A communist-inspired meeting in the Fiat Works in May 1920. This occurred during the period known as the Biennio Rosso, which engulfed Italy in political and social turmoil after World War I. Turin's many industries made it a breeding ground of leftist politics and, later on, anti-Fascist activity. Strikes became prevalent in Fiat's factories from spring 1943, and these spread throughout the city and beyond. This meant Turin was perceived by the British as being vulnerable to bombing and the collapse of civilian morale. (Getty Images)

worsen the city's morale and damage its vital railway links, attacking the railway transformer stations to impede the movement of German reinforcements to southern Italy, and bombing the port and oil storage tanks at Leghorn to worsen the position of the fuel-starved Italian battlefleet. In this regard, Bomber Command's attacks on Italy were certainly useful, if not entirely critical. Bombing Italy also helped the air war over Germany by pulling Luftwaffe's air defence assets away from the Reich. This should not be overstated, however, for by spring 1943 the commencement of the battle of the Ruhr saw Hitler reverse the decision, and a considerable number of heavy flak guns and searchlights were sent back to the Reich. Moreover, what assistance Germany had sent to Italy was too miniscule to have affected the Reich's air defences.

The second question is how materially damaging were Bomber Command's attacks on Italy? In *Despatch on War Operations*, Harris wrote:

By comparison with the tremendous weight of attack against Germany, the total effort directed against Italy, namely 9,089 tons of bombs, might at first sight appear relatively insignificant (all but 259 tons of this effort was contributed during the first eighteen months of my period of Command). In reality, the return for a comparatively modest scale of attack on Italian cities was vastly greater than in the case of Germany for a number of reasons.

Certainly, on one level, that return had been enormous, with severe damage to Turin's railway lines, marshalling yards, stations and industrial plants. This included considerable devastation to eight of the ten Fiat Works, especially to the firm's newly built factory at Mirafiori that amounted to some 110,000 sq metres. Such damage, coupled with labour difficulties and raw material shortages, meant 'Fiat was producing at just above 40% of its capacity'. It is also important to note the products Fiat were finding difficult to produce: the attacks of 20/21 November and 8/9 December 1942 destroyed the aircraft production lines at the Aeritalia site, causing 'serious repercussions' for future production of the CR.42 and Macchi MC.205. Yet residential damage in Turin was a different story, as this amounted to only about 40 acres of the city's built-up area. According to Bomber Command's *Quarterly Review*, this was because of 'the absence of trees in Italy and the consequent lack of wood in Italian homes,

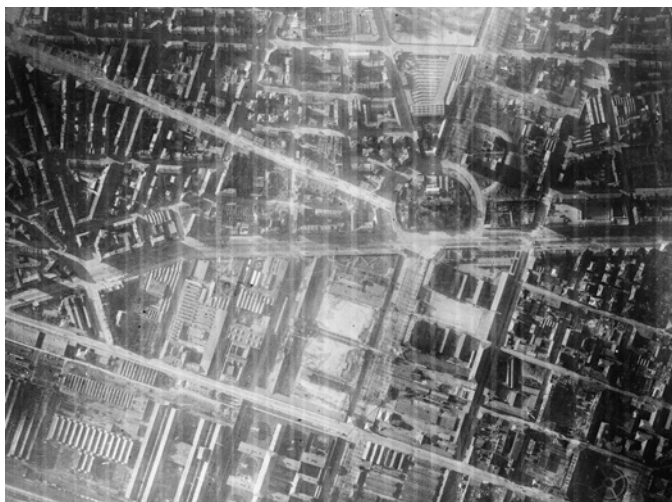
A crowd gathers in front of the Teatro Carlo Felice in Genoa, which was damaged by the raid on 7/8 August 1943. Not only was massive damage inflicted on its shipyards and the huge Ansaldo Works, but Genoa's city centre also suffered devastation, which included damage to public, residential and cultural buildings. (Getty Images)



which have always proved incombustible'; this was especially apparent in Turin's modern concrete apartment blocks. In contrast, Milan, with the aiming point right over the old city centre, suffered 350 acres of damage to its built-up area (Zone A) and a further 80 acres in the lightly populated suburbs. The city's transport had broken down and the factories of Alfa Romeo, Isotta Fraschini and Pirelli were all damaged. By summer 1943, some 500,000 people had fled the city. In Genoa, the docks and city centre had been so damaged by mid-November 1942 that Harris did not send his bombers there again, except for the moderate attack on 7/8 August 1943.

Yet the effect of bombing in northern Italy went beyond the mere devastation to industries and residential areas, as serious as this was. This leads to the third and probably the most crucial question of all: did bombing bring about Mussolini's downfall in July 1943 and Italy's capitulation two months later? Put another way, was the bombing of northern Italy one of the few examples of a strategic air offensive achieving its overriding political objective? Not surprisingly, the airmen certainly thought so. Harris wrote about 'the psychological reaction of the Italian population' being 'clearly of far greater importance' owing to the nightly evacuations of civilians from industrial areas (which in early December became official policy): 300,000 people fled Turin after the heavy attack of 20/21 November 1942, whilst the daytime/night-time attack on Milan on 24/25 October caused tremendous panic in the city. All this turned the mood of the people against the regime. A leaflet published by a clandestine movement, the Comitato d'azione per l'unione del popolo italiano, circulated the view that 'Mussolini and his government are the most responsible for these bombings ... [as they had] drawn the RAF bombers on to our cities and knowingly left our population without defence'. Harris therefore asserted that his attacks on northern Italy had collapsed civilian morale, had turned Italians against the war, and had driven a wedge between the people and the regime, which was increasingly isolated. For a 'Bomber Baron' like Harris, Italy *was* a victory for airpower, a vindication of the ideas of strategic bombing theorists (like Douhet) and its practitioners.

Such a view has some truth, yet it remains a one-dimensional one, which fails to take into account the disastrous course of Italy's war in the Mediterranean. In the final analysis, Harris' bombers added a short, sharp, violent *coup de grâce* against a country whose morale had already been lowered by its collection of military defeats. The bombing merely added to the traumas of an increasingly beleaguered regime. In this regard, the work of Italian historian Professor Claudia Baldoli sheds considerable light on the conditions in Turin, Milan and Genoa by 1942/43 caused by Harris' bombers. In Genoa, the bombing had 'shown how close the home front was to collapse', in which 'popular and spontaneous protests were witnessed in those quarters of the city where there had been no public shelters'. This included protestors, mainly women, pelting the air raid shelters of the wealthy or forcing their way inside. Civilian anger, over the lack of fire fighting and post-raid services, mixed with panic, and soon became attached to the regime over its failure to provide proper protection. Milan also saw signs of growing protest, especially by working-class women against the increasingly acute daily hardships. The bombing caused shortages that only added to the misery. A lack of fuel meant the northern Italian winter, which can be surprisingly cold, was particularly bitter in 1942/43, especially in bomb-damaged residences. Rioting broke out because the long-standing issue of food shortages worsened considerably during this time due to dislocation to Italy's railways, which inevitably led to rising prices. Therefore, by winter 1942, Baldoli writes, 'some 40 per cent of Turinese families suffered from malnutrition and had insufficient heating for their homes'. Yet the desperate war situation meant the regime was not able to alleviate the widespread civilian suffering. Hence the war-weary population turned against Mussolini and his ever-increasing list of military setbacks – Greece, Libya, southern Russia, Tunisia and Sicily – which, by summer 1943, had brought the Allies to the brink of invading mainland Italy. Military disaster had often brought Harris' bombers back to northern Italy



An aerial view of the damage to Milan, which was extensive. The city centre suffered 350 acres of damage to the built-up area of Zone A and a further 80 acres in the lightly populated suburbs. The city's transport had broken down and the factories or works of Alfa Romeo, Isotta Fraschini and Pirelli were all damaged. By summer 1943, some 500,000 people had fled the city. (IWM C 5542)

wages, and protest increasingly became politicised to form a volatile cocktail. Foolish Fiat management policies, such as one which tried to be implemented at the Lingotto site in which workers' wages were withheld when production stopped due to air-raids, were hardly conducive to harmonious industrial relations. Armed with intelligence – from secret ground sources – about conditions in Turin (and Italy generally), it was little surprise Harris opted to suddenly attack the city on 4/5 February, especially as Italy's war situation in North Africa and southern Russia had become desperate. The attack halted local transport services and factory production, and strikes finally erupted at the Mirafiori plant on 5 March, becoming more intense and widespread three days later. Given that the unrest spread to Milan, HQ Bomber Command chose this city ten days later for its next Italian raid as the increasingly ugly mood there made this the perfect time to attack the city. By late March, the strikes had spread to the Ansaldo factories in Genoa, and to other places throughout Piedmont and Lombardy. Things died down in April, but the damage had been done: both support for, and trust in, the Fascist regime had almost evaporated. Therefore, the situation in Turin – with its discontent, unrest, protest, strikes and collapsing morale amongst its industrial workers – was the embodiment of the views of the 'Bomber Barons' about the effects of city bombing. Given this situation, it was small wonder the British Air Ministry and COS in April 1943 considered plans to knock out Italy through 'air action alone' – a scheme which, notwithstanding Mussolini's downfall, was put into effect in August. Indeed, at this time, HQ Bomber Command made an assessment of Turin's residential areas to ascertain whether these should be burnt down or blasted apart, in a final effort against the city to pressurise the Badoglio government into signing the armistice. This was 'terror-bombing' in all but name, aimed at workers' houses and breaking the morale of the civilian population. As brutal (and, by today's standards, morally questionable) as it was, it did work in achieving the Allies' political aims with regards to Italy, as Baldoli concludes. Harris' area bombing strategy had achieved what it had been designed to achieve: to make all aspects of life in the major cities unbearable, to lower morale, to shake the regime and to cause capitulation. The bombing had been controlled because the olive branch of peace always had to be maintained. Should Badoglio not have seized this, then Italy was threatened that 'worse attacks could follow'. To graphically illustrate the point, the fate of Hamburg was the subject of a propaganda leaflet dropped on the northern Italian cities on 16 August that ominously asked: 'Will it be the same in Italy?' Within days, the Italian people had given a clear answer to this question: they had pushed Badoglio into finally ending Fascist Italy's disastrous war.

to worsen the public mood, as seen in February 1943 when the final Italian loss of Libya and the near destruction of Italy's Eighth Army (numbering some 229,000 men) in the debacle at Stalingrad precipitated attacks by Bomber Command on Turin and then Milan.

The storm finally broke in Turin, Italy's foremost industrial city, not long after. With a history of left-wing agitation, Communism and anti-Fascism over the previous 25 years, Turin was always a vulnerable political point for the Mussolini regime, and agitation in the city notably increased when communist leaders returned from exile in winter 1942/43. The usual grievances against the course of the war and the authorities' poor shelter provision became mixed with the issue of workers'

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Title page image:

Halifax Mk IIs of 10 Squadron making the long journey to an Italian target, in this case Turin, in autumn 1942. (Imperial War Museums, CH 7900)